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Bulletin 22

DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
JOSEPH A. HOLMES, DIRECTOR

ANALYSES OF COALS
IN THE UNITED STATES

WITH DESCRIPTIONS OF MINE AND FIELD SAMPLES COLLECTED BETWEEN JULY 1, 1904, AND JUNE 30, 1910

BY

N. W. LORD

WITH CHAPTERS BY

J. A. HOLMES, F. M. STANTON
A. C. FIELDNER, AND
SAMUEL SANFORD

Part I.—Analyses

WASHINGTON
GOVERNMENT PRINTING OFFICE
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NOTE.

This report consists of two parts, namely:

Part I. Analyses of coals in the United States (pp. 1-321).

Part II. Descriptions of mine and field samples collected between July 1, 1904, and June 30, 1910 (pp. 323-1158).

A general table of contents, a preface, and an introduction appear in Part I. Part II contains an index, a list of Bureau of Mines publications, and a bibliography.

First edition. June, 1913.

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PREFACE.

By Joseph A. Holmes.

The establishment on July 1, 1910, of a National Bureau of Mines on a permanent basis, and the transfer, for continuance under this bureau, of the fuel investigations organized and conducted, 1904 to 1910, under the United States Geological Survey, were considered as making a suitable occasion for assembling for publication in convenient form a description of those investigations, the methods followed, the equipment used, and the results obtained. The larger part of the data was assembled in three reports, of which the first (Bulletin 13), on the fuel tests made in gas producers, and the second (Bulletin 23), on the fuels tested in boiler furnaces, have been published. The present report, which gives the chemical analyses of the coals tested and a statement regarding the mines and beds from which these coals were collected, is the third of the group.

Much of the material has already been published in various bulletins of the Geological Survey, but most of those bulletins are now out of print and some of the material has not yet been published. Hence, it was deemed wise to bring together all the information, both published and unpublished, that may have special value and to publish it in convenient form. A résumé of certain additional data covering the briqueting of the fuels tested will be similarly segregated and published in a future bulletin of the Bureau of Mines.

When Congress authorized this work in 1904, the Director of the United States Geological Survey placed its supervision under a committee consisting of E. W. Parker and M. R. Campbell, of the Geological Survey, and the present writer. This committee selected as its consulting experts Prof. Robert H. Fernald, then of the mechanical-engineering department of Washington University, St. Louis, to take charge of the gas-producer investigations; Prof. Lester P. Breckenridge, then of the mechanical-engineering department of the University of Illinois, to take charge of the boiler and steaming investigations; and Prof. Nathaniel W. Lord, then of the chemical department of the Ohio State University, to take charge of the chemical work.

In planning the fuel investigations, the committee found that there were limitations as to equipment available; no satisfactory methods had been developed; and few experts had been adequately trained for such investigations. Nevertheless, it was believed that, if properly carried on, the results of these investigations would have a large and permanent value. Therefore, the coals used in the investigations were selected and collected in such manner as to insure their being representative of actual and extensive resources.

During 1905 and subsequent years the administrative supervision of these investigations was assigned by the Director of the Geological Survey to the present writer, but the technical advice of Profs. Lord, Breckenridge, and Fernald was followed throughout, and the administrative plans developed during the work of 1904 so largely by Messrs. Parker and Campbell, with whom the writer was associated, have continued to serve as a general guide.

ANALYSES OF COALS IN THE UNITED STATES.

By N. W. Lord.

INTRODUCTION.

SIGNIFICANCE AND VALUE OF ANALYSES OF COAL.

The value to an engineer, power-plant superintendent, or coal dealer of the chemical analysis of a sample of a given coal is a matter that has given rise to much discussion. The general weight of opinion seems to be that an analysis is often of the highest value, and that the time and labor involved in making it are well spent. However, it is clear that analyses are of greater value to some engineers or users of coal than to others; and that, at the present time, they can not entirely supplant in all cases the information to be obtained from carefully conducted tests in boiler furnaces, gas producers, etc., but supplement such information, when the latter is obtainable.

A large and increasing proportion of the bituminous coal consumed in the power stations and the larger manufacturing plants of the country is now being purchased under specifications based on chemical analyses and calorimetric determinations of heat units. In many of these cases, however, specifications are applied to coals whose general behavior in the furnace is already known and are used with a view to determining whether, or how closely, the quality of the various deliveries of coal received from time to time compares with the percentages of moisture, ash, sulphur, volatile matter, and the heating value specified in the contract. The large increase in the number of chemical analyses now being made throughout the country in connection with the purchase, under some form of specification, of coal for power plants is in itself testimony by the engineers in charge of those power plants of the value of such analyses.

The cost of shipping coal a considerable distance in sufficiently large quantities for practical boiler tests and the difficulties and delays incident to the making of such tests while a power plant is in active operation have encouraged the use of chemical analysis as a quicker and cheaper means of determining the relative values of different coals and of different shipments of the same coal. The acceptance of and payments for deliveries of coal to various power and heating plants operated by the Government in different parts of the country are now largely based upon chemical analyses and calorimetric determinations.

In the testing of coals in the Government service the chief difficulties in the way of accepting or rejecting untried coals on the basis of chemical analyses alone have proved to be as follows:

(1) An ordinary analysis of a coal shows the percentage of ash but does not indicate the extent to which this ash may fuse or slag on the grate bars of the furnace, and thus seriously interfere with the rate and completeness of the combustion. Though progress has been made toward the determination of the liability to clinker, through a study of the composition of the ash, the results obtained are not as yet altogether satisfactory.

(2) There seems to be a variability in the heating value of the volatile matter in the coal, which is not clearly indicated by the percentage of the volatile matter, as determined either by the usual methods, or by the ordinary calometric determinations.

(3) The caking of the surface coal in the fire box appears to interfere with the draft, and hence, with the rate and completeness of the combustion, and therefore impairs the fuel value of the coal to a degree that is not ordinarily indicated by chemical analyses.

The Bureau of Mines has endeavored to ascertain the opinions of some of the most prominent fuel engineers in this country, and extracts from the statements of several of them are given below.

W. M. F. Goss, Urbana, Ill., dean of the college of engineering of the University of Illinois, states:

> The engineer each year is becoming more and more a scientist. Many matters which he has hitherto left to chance are now carefully investigated. In the use of fuels the engineer now seeks to construct his furnace and to arrange its heat-absorbing surfaces with reference to the peculiar characteristics of the fuel which is to be burned. If he understands the composition of his fuel and if he is free to proceed with the construction of his furnace with reference thereto, efficient and smokeless combustion will result. It is for this reason that data showing the analyses of typical fuels in every part of the country will prove of inestimable value in the future work of the engineer.

W. L. Abbott, Chicago, Ill., chief operating engineer of the Commonwealth Edison Co. of Chicago, Ill., expresses the following views:

> It is usually the case that for any particular market the choice of coal is limited by quality and freight rates to one or two fields, throughout which the character of the coal in the bed is comparatively uniform, and any variation which may be found in the shipments at different times or from different mines is due to difference in method or care in preparation. The value, therefore, of having at hand a chemical analysis of the coal from any particular district is to have a standard to which future analyses may be compared to determine whether or not the coal is being prepared as carefully as it should be.
>
> Such a tabulation of coal analyses is also of value to the consumer, as it enables him to determine to what other fields he should turn next for his coal if the supply from the field from which he usually gets his coal is interrupted.

> The coal supply of the country involves an expenditure of hundreds of millions of dollars annually, and its importance is such as to warrant the most careful study of all its features. The basis for such a study is a knowledge of the chemical composition of the coal from each location and bed, and as the expense of obtaining such information is infinitesimal compared with the importance of the subject to which it relates, this work should be done with the greatest detail and care.

J. F. Deems, New York, general superintendent of motive power department of the New York Central lines, says in regard to the value of chemical analyses:

> Where more than one kind or grade of coal is obtainable, there is little doubt that a chemical analysis is of value to any consumer, and especially to a large consumer, for the information obtained from the analysis has a large part in enabling him to make a choice of the coal. In the case of certain purposes for which coal is used, it seems to me accurate chemical analyses of the coals offered for use are indispensable.

L. P. Breckenridge, professor of mechanical engineering, Sheffield Scientific School, Yale University, expresses his views as follows:

> The value of a correct chemical analysis of the various coals of the United States is of great importance to designing and operating engineers and to the fuel departments of railroads, steamship companies, and large industrial concerns. These analyses, taken with the large number of available economy tests on boilers and gas producers, make it possible for the engineer to determine in advance what fuels he may expect to burn with the greatest economy in any given locality. The wide variations in composition and heat values of coals distributed through the various States make such analyses indispensable for the designers of fuel-burning furnaces for boilers, gas producers, or metallurgical industries.

The analyses published in this report cover samples of coal collected in many different parts of the country with unusual care by experienced men, in such manner as to make them representative of extensive beds of coal. These samples were forwarded to the laboratory under favorable conditions and carefully analyzed by chemists trained in this special line of work. When many of these analyses were made it was not expected that the results would be published; but the calls from all parts of the country for this information have been so numerous that publication of the analyses is deemed advisable. It is hoped that the analyses as printed in this report will be found useful not only by officers of the Government in making purchases of fuel for public use, but also by engineers and chemists and by all persons who buy or sell coals purchased or sold in the United States, and that they may prove of especial value in connection with the export of coal to other countries.

ACKNOWLEDGMENTS.

The compilation of the analyses presented in this volume was done for the most part by men connected with the coal-inspection service of the United States Geological Survey and of the Bureau of Mines, under the direction of J. S. Burrows and G. S. Pope. A. C. Fieldner had charge of checking the analyses. M. R. Campbell, of the Geological Survey, gave valuable aid.

SCOPE OF THIS BULLETIN.

On July 1, 1910, the fuel-testing investigations that were being carried on by the technologic branch of the United States Geological Survey were transferred to the Bureau of Mines. Up to that date 10,000 samples of coal had been analyzed. Many of the analyses have been printed in various publications of the survey and of the Bureau of Mines. This bulletin presents analyses of mine and car samples only, and does not contain the analyses of the various samples taken in the course of steaming, gas producer, coking, washing, and briquetting tests. The analyses of these test samples may be obtained by consulting the publications dealing with fuel testing that have been issued by the Bureau of Mines and the Geological Survey. A list of these publications is given at the end of part II of this report.

COLLECTION OF SAMPLES.

The samples of coal mentioned in this report may be separated into two classes: (1) Those collected in mines by engineers connected with the Government fuel-testing plants or taken from cars after delivery at the fuel-testing plants, and (2) samples collected by geologists of the Geological Survey in the course of investigations in the various coal fields of the country.

The method of collecting mine samples that is practiced by the Bureau of Mines has been described in one of the bureau's publications,[a] and is summarized in part II of this bulletin. It involves selecting a representative face of the bed to be sampled; cleaning the face, making a cut across it from roof to floor, and rejecting or including impurities according to a definite plan as these are included or excluded in mining operations; reducing the gross sample, by crushing and quartering, to about 2 pounds; and immediately sealing the 2-pound sample in an air-tight container for shipment to the laboratory.

It is expected that in future work 3-pound samples will be collected and sent to the laboratory for analysis.

The carload lots of coal shipped to the fuel plants were sampled by taking definite quantities of coal at regular intervals from a car as it was unloaded, and by reducing to convenient size, about 2 pounds, the gross samples thus obtained.

ANALYSIS OF SAMPLES.

The methods used in analyzing the samples of coal and the significance of the results are discussed by Stanton and by Fieldner in the chapters that follow. The essential fact to be remembered is that the coal received at the laboratory is air dried at a temperature slightly above that of the room, and this air-dried coal is analyzed. Therefore the values stated in the table of analyses (pp. 33 to 321) for coal "as received," "moisture free" and "moisture and ash free" were not obtained directly, but were calculated from the values obtained by the analyses of the air-dried coal.

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[a] Technical Paper 1, The sampling of coal in the mine, by J. A. Holmes. 1911. 12 pp.

RELATIONS OF MINE SAMPLES TO COMMERCIAL SHIPMENTS.

The relation between a mine sample of coal and the average of the coal shipped from the same bed in the regular course of production is a matter that received much attention during the course of the work covered by this report. Some results of a comparison of the analyses of samples collected in the progress of the work at St. Louis were presented in a bulletin of the Geological Survey,[a] but the work done since then does not tend to support the view, expressed in that bulletin, that by sampling according to a prescribed method such a definite relationship can be established between mine samples and commercial shipments that by the use of a factor the chemical constituents of the commercial output from a given bed, or even from a given region, may be calculated.

Experience has demonstrated that mine samples carefully taken according to prescribed methods are apt to indicate coal of slightly better grade than the average commercial shipments from the same mine.

The reason for this difference is easily found. The miner, being paid by the ton, shovels up the coal in a hurry, and is liable to load out impurities that the trained collector would be inclined to exclude from a mine sample. Moreover, if the roof chips and falls on exposure, or if the floor comes up in flakes under the shovel, impurities that are not from the coal bed are sent to the surface with the coal. The proportion of the impurities separated at the surface depends on the closeness of the tipple inspection, which may vary with trade conditions, and on the efficiency of whatever cleaning devices are employed.

The fact that mine samples are apt to indicate coal of slightly better grade than average commercial shipments should be borne in mind by operators and sales agents when bidding on contracts that specify the ash content, heating value, or other characteristics of the coal to be delivered, and impose a penalty on the delivery of coal below the standard named. Bids on such contracts should not be based solely on mine samples but on samples from shipments of some size, mined and prepared under conditions that can be maintained during the life of a contract.

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[a] U. S. Geol. Survey Bull. 316, 1908, pp. 486-517.

LABORATORY METHODS.[a]

By Frederic M. Stanton.

INTRODUCTORY STATEMENT.

A laboratory for analyzing fuels was organized by the United States Geological Survey in 1904. This laboratory was first located in the metal pavilion at the Louisiana Purchase Exposition, St. Louis, Mo. At that time it was a part of the Government fuel-testing plant, and was designed for making chemical analyses of the fuels tested at the plant.

The laboratory was equipped under the direction of N. W. Lord, professor of metallurgy in Ohio State University, Columbus, Ohio. E. E. Somermeier, assistant professor of metallurgy in Ohio State University, had local charge of the laboratory until September, 1905. He then resumed his university duties, but still retained general supervision of the work of the laboratory, which was under the local charge of F. M. Stanton. In the summer of 1907 the laboratory came under the immediate charge of the technologic branch of the Survey and was moved from St. Louis, Mo., to the Carnegie technical schools, in Pittsburg, Pa. Prof. Lord was retained as consulting chemist and F. M. Stanton was given charge of the laboratory.

In 1908, the laboratory was moved to the grounds of the United States Arsenal at Fortieth and Butler Streets, Pittsburg, Pa., where one of the arsenal buildings was remodeled to accommodate it. In July, 1909, A. C. Fieldner was placed in local charge of coal analysis. As many as 10 chemists have at times been at work simultaneously.

PERSONNEL.

The following list includes the names of all who had been directly connected with the chemical laboratory up to July 1, 1910: John Birdsong, J. H. Bauer, D. I. Brown, G. A. Burrell, John Crawford, jr., A. T. Davenport, E. M. Dawson, jr., Fred Deering, C. D. Dunnington, Colby Dill, J. D. Davis, John Dalton, D. J. Demorest, A. C. Fieldner, C. B. R. Fitzwilliam, C. K. Glycart, Max Hecht, S. S. Heide, R. T. Hapgood, Harold Isenberg, W. W. Karnan, Prof. N. W. Lord (director of laboratory), Joseph Millenson, John McCalip, C. J. Monahan, B. G. Macintire, W. L. Maclaskey, L. L. A. Moran, F. K. Ovitz, J. W. Peters, Charles Rowlands, John Sherrer, E. E. Somermeier, F. M. Stanton, W. E. Surbled, G. O. Spitler, Roy Steward, E. Sohn, John

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[a] For a discussion of details and modifications developed since the compilation of this report, see Technical Paper 8, Bureau of Mines, Methods of analyzing coal and coke, by F. M. Stanton and A. C. Fieldner, 1913.

F. Travis, Edward Thomas, R. E. Vennum, K. M. Way, Paul Wilson, E. C. Waters, G. E. Webster, R. C. Willis, jr., Robert Zaloudek.

AIR DRYING OF SAMPLES.

The coal samples are received at the laboratory in cans which contain about 2 pounds of coal. The cans are fitted with a screw cap and are made practically moisture tight by wrapping a piece of electrician's tape around the joint between the cap and the top of the can. The coal is crushed to pass a screen with ½-inch mesh before it is shipped to the laboratory. Immediately after the receipt of the sample the coal is removed from the container and weighed; then it is spread out in a 9-inch tin cake pan and dried in a large drying oven at a temperature of 30 to 35° C. A current of warm air is drawn through the oven by means of an ordinary 8-inch electric fan mounted in an exhaust flue on top of the oven. The sample is dried until the loss in weight between two successive weighings made 6 to 12 hours apart does not exceed 0.2 per cent. The primary purpose of this air drying of samples before analysis is to get the moisture content of the sample reduced to such a condition that there will not be rapid changes in the weight of the sample during the course of the analysis. The air-drying loss is not regarded as an accurate determination; it simply shows that the sample lost so many per cent of moisture before it came to a condition of equilibrium with respect to the moisture in the air of the room.

After being air-dried, the sample is put through a pair of 4-inch rolls, which reduce it to about 10 mesh; it is then quartered through riffles until the portion left weighs about 400 grams. This 400-gram portion is placed in the porcelain jar of an Abbe ball mill, and is sealed air and moisture tight by a rubber gasket under the lid. The mill is revolved at the rate of 1 revolution per second for about 35 minutes depending upon the character of the sample; it is then opened and the sample is dumped into a 60-mesh sieve that has a cover and a pan bottom attached. All the sample (400 grams) is put through this 60-mesh sieve and is then thoroughly mixed.

About 60 grams of the sample is transferred to a wide-mouth bottle having a rubber stopper and labeled with the laboratory number and the date. This 60-gram portion represents the 2-pound sample received and is ready for chemical analysis.

The samples from the steaming, gas-producer, coke-oven, and other tests are received at the laboratory in covered galvanized-iron cans containing about 40 pounds of coal. Each of these samples is reduced to ¼-inch mesh by being passed through a "chipmunk" jaw crusher, and after being quartered to a portion weighing about 2 pounds, is treated exactly as a mine sample received in a 2-pound can.

METHODS OF ANALYSIS.

The methods employed in analyzing coals during the period covered by this report were essentially those adopted and recommended by the American Chemical Society. A few modifications in details of manipulation have been found desirable. Reference to these is made in United States Geological Survey Bulletin 323 and in Technical Paper 8, Bureau of Mines. The methods employed at present in the chemical laboratory of the Bureau of Mines are as follows:

MOISTURE AND ASH.

A 1-gram sample of the coal (60 mesh) is placed in a weighed porcelain crucible and heated one hour at 105° C. in a constant-temperature oven through which a current of dry, preheated air is circulated. The sample is then covered, removed from the oven and cooled in a desiccator over sulphuric acid. The loss in weight is counted as moisture.

The oven is a double-walled copper cylinder. The space between the outer and inner wall is filled about two-thirds full of a solution of glycerin in water, the proportions of water and glycerin being such that the boiling solution maintains a temperature of 105° C. in the oven. The specific gravity of this solution is 1.19 at 15° C. A return condenser keeps the concentration nearly constant. A current of air is dried by being drawn through sulphuric acid and is preheated by being passed through a copper tube around the oven between the outer and the inner wall. This dry air is forced through the oven at a rate sufficient to replace the total volume of air 8 to 10 times in one hour. This form of bath was designed by Prof. N. W. Lord. Practically no trouble is experienced in maintaining a constant temperature with it.

The porcelain capsule, after the moisture determination, is placed in a muffle furnace and slowly heated until the volatile matter in the sample is driven off. The heating is done slowly, to avoid coking and thus making the sample difficult to burn; furthermore, if the coal is high in volatile matter and is rapidly heated, the gas generated has a tendency to explode within the capsule, thus causing the loss of particles of the ash. The ignition in the muffle is continued, the ash being occasionally stirred, until all particles of carbon disappear. The crucible containing the ash is then cooled in a desiccator and weighed. The crucible and ash are again placed in the muffle, heated for half an hour, cooled in a desiccator, and weighed. If the change in weight is less than 0.5 milligram, the weight is considered as constant and the weight of the crucible is deducted from the last weighing. If the change is greater than 0.5 milligram, the ash is ignited again for 30 minutes and weighed, and the process is repeated until the variation in weight between two successive ignitions is 0.5 milligram or less. The weight of the crucible and ash, minus the weight of the crucible, is taken as the weight of the ash.

In the analysis of coals high in iron some difficulty is often experienced in igniting to constant weight because of the oxidation and reduction of iron compounds.

Ash, as determined by the above method, represents the ignited mineral matter in coal. This mineral matter consists largely of hydrated silicates, carbonates, sulphides, sulphates, etc., of aluminum, iron, calcium, magnesium, and other bases; all of these compounds lose considerable weight upon ignition. The alterations in the mineral matter during the determination of ash cause corresponding variations in the oxygen percentage, because the latter is always determined by difference.

VOLATILE MATTER.

A 1-gram sample is weighed into a 30-c. c. platinum crucible with a close-fitting cover. It is essential that the crucible be kept perfectly clean and well burnished. The crucible is heated for seven minutes upon a platinum triangle over a Bunsen burner flame 20 centimeters high.[a] The crucible should be placed in the triangle so that the bottom is 6 to 8 centimeters above the top of the burner. The flame is surrounded by a jacket to prevent the disturbing action of drafts. After being heated seven minutes the crucible is cooled and weighed. The loss in weight represents volatile matter plus moisture. Lignites high in moisture must be heated very gradually until the moisture has been driven off in order to avoid losses from material thrown out of the crucible by the rapid escape of moisture.[b]

A number of experiments have been made in the laboratory of the Bureau of Mines to ascertain the accuracy of the official method for the determination of volatile matter and the conditions of manipulation that may vitiate the results.[c] Some of these results are summarized as follows: Two laboratories, though they both use the official method, are liable to make volatile matter determinations that differ 2 per cent. The percentage of volatile matter obtained from the same sample of coal varies with the temperature and rate of heating. This is not sufficiently defined by height of flame. Temperatures ranging from 760 to 890° C. may be attained with a 20-centimeter natural gas flame, by varying the gas pressure from 1 to 13 inches of water; variations of 2 per cent in volatile matter determinations are thus produced. Difference in type and size of burner influence results from 0.3 to 1.5 per cent. Polished crucibles become hotter and yield about 1 per cent more volatile matter than dull gray ones.

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[a] For the use of a Meker burner, and other refinements in the volatile matter determination, see Technical Paper 8, Bureau of Mines, 1913.

[b] For a discussion of such losses, see U. S. Geol. Survey Bulletin 323, p. 36.

[c] Fieldner, A. C., and Davis, J. D. Some variations in the official method for the determination of volatile matter in coal. Jour. Ind. and Eng. Chem., July, 1910, p. 304.

Laboratories using natural gas are apt to get results on volatile matter that are considerably lower than those obtained by laboratories using coal gas, unless the following precautions are observed:

1. Gas should be supplied to the burners at a pressure of not less than 10 inches of water.
2. When natural gas is used burners admitting an ample supply of air should be used.
3. Gas and air supply should be regulated so that a flame with a short, well-defined inner cone is produced.
4. The crucibles should be supported on platinum triangles and kept well polished.

NITROGEN.

Nitrogen is determined by the well-known Kjeldahl method. One gram of the coal sample (60 mesh) is boiled with 30 cubic centimeters of concentrated sulphuric acid and 0.5 gram of mercury until all particles of coal are oxidized and the solution is nearly colorless. Crystals of potassium permanganate are added, a few at a time, until oxidation is completed. The solution is cooled and then diluted with about 200 cubic centimeters of water. Forty cubic centimeters of potassium sulphide solution, 80 grams per liter, is added to precipitate the mercury. The ammonia is distilled from the solution, after the addition of an excess of sodium hydroxide, until about 200 cubic centimeters of distillate has passed over into the Erlenmeyer flask containing the standard acid. The ammonia is collected in a measured amount of this acid, and the excess of acid is titrated with standard ammonia solution (20 c. c. NH_4OH solution = 10 c. c. H_2SO_4 solution = .05 gram nitrogen), using cochineal as an indicator. A small quantity of granular zinc added to the contents of the flask during the final distillation of the alkaline solution prevents bumping, and the addition of a piece of paraffin the size of a pea prevents frothing.

SULPHUR.

Sulphur is determined by the Eschka method. Eschka mixture is made by thoroughly mixing 2 parts of light calcined magnesium oxide (MgO) with 1 part of anhydrous sodium carbonate (Na_2CO_3).

A 1-gram sample of the coal (60 mesh) is thoroughly mixed in a 30-cubic-centimeter platinum crucible with about 2 grams of Eschka mixture, and about one-half gram of Eschka mixture is spread over the top of the sample to form a cover. The crucible is placed on a triangle in a slanting position, and the mixture is burned out over an alcohol, gasoline, or natural gas flame. Artificial gas, as a rule, contains so much sulphur that its use introduces an error in the determination, owing to the uncertainty regarding the quantity of sulphur taken up by the mixture. The flame must be very low at the start so as not to drive off the volatile matter fast enough to allow the sulphur to escape unburned. The contents of the crucible should never be heated hot enough to cause the blackening of the cover of Eschka mixture. It is easy to detect a very small loss of sulphur dioxide (SO_2) by the odor.

After the crucible has been heated slowly and cautiously for about 30 minutes the heat is increased; after the crucible becomes red hot the contents are stirred occasionally and the heating is continued until all black particles are burned. The crucible is then allowed to cool; the contents are transferred to a 200-cubic-centimeter beaker and digested with 75 cubic centimeters of hot water for at least 30 minutes. The solution is filtered into a 300-cubic-centimeter beaker; the residue is washed twice with hot water by decantation, and after transfer to the filter paper, is washed with small quantities of hot water until the volume of solution in the 300-cubic-centimeter beaker is about 200 cubic centimeters. About 4 cubic centimeters (or a slight excess) of saturated bromine water and just enough concentrated hydrochloric acid to make the solution slightly acid are added. The solution is boiled and the sulphur is precipitated as $BaSO_4$ by adding 20 cubic centimeters of a hot 5 per cent solution of barium chloride. The solution in the beaker should be stirred continually and the barium chloride solution should be added slowly from a pipette. The chemist should be sure that the solution in the beaker is acid to litmus. The solution and precipitate should be allowed to stand at a temperature just below boiling for at least two hours. They should then be filtered on ashless filter paper and washed—first with hot water containing 1 cubic centimeter of hydrochloric acid per liter and then with hot water—until a drop of the filtrate gives no precipitate from silver nitrate solution. An excess of barium chloride should be tested for by adding a few drops of sulphuric acid solution to the filtrate. The precipitate is ignited in a weighed porcelain crucible with free access of air; the paper is loosely folded over the precipitate to prevent spattering. The paper should be smoked off gradually, and the final heating should not be above a dull red. After the paper is completely burned, the heating should be continued a few minutes; then the crucible should be cooled and weighed. The weight of barium sulphate times 13.7 equals the per centage of sulphur in the sample.

ULTIMATE ANALYSIS.

The ultimate analysis of samples is made in a gas-combustion furnace, Glazer type, with 25 burners.

The apparatus used comprise duplicate purifying trains, a combustion tube in the furnace, and an absorption train. The purifying trains contain the following purifying reagents arranged in the order of the passage of air or oxygen through them: Sulphuric acid, potassium hydroxide solution, soda lime, and granular calcium chloride. One of the trains is for air and one for oxygen. In the scrubbing bottles containing the sulphuric acid and the potassium hydroxide the air and oxygen bubble through about 5 millimeters of the reagent. Both purifying trains are connected by a Y-tube to the combustion tube, the joint being made tight with a rubber stopper.

The combustion tube, of hard Jena glass, has an internal diameter of about 15 millimeters, and a total length of 1 meter. The first 30 centimeters of the tube is empty, then comes an asbestos plug (acid washed and ignited); the next 40 centimeters is filled loosely with copper oxide wire; a second asbestos plug, similar to the first, separates this wire from 10 centimeters of fused lead chromate, which is held in place by another asbestos plug 20 centimeters from the end of the tube. The end of the tube is drawn out so that it can be connected to the absorption train by rubber tubing. The absorption train consists, in order, of a Marchand tube filled with granular calcium chloride (to absorb moisture); a Liebig bulb, containing 30 per cent potassium hydroxide solution in which the iron has been oxidized by a little potassium permanganate. A guard tube, containing soda lime and granular calcium chloride, is attached to this Liebig bulb to absorb any carbon dioxide that passes the potassium hydroxide solution, and any water evaporated from that solution. This guard tube is always weighed with the Liebig bulbs. The train is connected to an aspirator which draws the products of combustion through the entire train. The suction is kept constant by a Mariotte flask. A guard tube containing calcium chloride prevents moisture from running back into the absorption train.

Aspirating the gases instead of forcing them through the train has the advantage that the pressure on the rubber connections is from the outside and the connections are kept gas tight more easily. The connections are made as tight as possible. The usual test for tightness is to start aspiration at the rate of about three bubbles of air per second through the potash bulb and then close the inlet for air and oxygen at the other end of the train. If there are not more than five bubbles per minute in the Marriotte flask the apparatus is considered tight.

After the train has been idle some hours, or after any changes in chemicals or connections, a blank is run; about 1 liter of air is aspirated through the train which is heated in exactly the same manner as if a determination were being made. If the change in weight of the Liebig bulb and the tube containing calcium chloride is less than 0.5 milligram the apparatus is in condition for use.

A 0.2-gram sample of coal is weighed into a platinum or porcelain boat. The boat and sample are placed in a glass weighing tube that is closed with a stopper to prevent moisture changes. After the absorption tubes are connected the boat and sample are transferred from the weighing tube to the combustion tube. The latter should be cool for the first 30 centimeters; the copper oxide should be at a bright-red and the lead chromate at a dull-red heat. The boat should be transferred from the weighing to the combustion tube as quickly as possible.

As soon as the boat is in place (near the asbestos plug at the beginning of the copper oxide) the stopper connecting with the purifying train is inserted and the aspiration is started with pure oxygen gas at the rate of three bubbles per second. One burner is turned on about 10 centimeters back from the boat and the aspiration is continued carefully until practically all the moisture is expelled from the sample. The heat is then increased very gradually until all the volatile matter has been driven off. In driving off the volatile matter it is essential that the heat be applied gradually in order to prevent a too rapid evolution of gas and tar that may either escape complete combustion or may be driven back into the purifying train. The heat should be gradually increased by turning on more burners under the empty part of the tube until the sample is ignited; then the temperature can be increased rapidly, but care should be taken not to melt the combustion tube. The aspiration with oxygen is continued for two minutes after the sample ceases to glow, when the heat is turned off and about 1,200 cubic centimeters of air is aspirated. The absorption bulbs are then disconnected and weighed. The increase in weight of the Liebig bulbs times 136.36 equals the percentage of carbon. The increase in weight of the calcium chloride tube times 55.55 equals the percentage of hydrogen. The ash in the boat is weighed and carefully inspected for any unburned carbon which would destroy the value of the determination.

DETERMINATION OF CALORIFIC VALUE.

The apparatus used is the Mahler bomb calorimeter, which is too well known to require a detailed description. Following is a brief description of the details of operation for determining the heating value of coal.

A 1-gram sample of coal is placed upon an asbestos mat in the bottom of the platinum tray; the terminals of the firing circuit are connected by means of a fine iron wire weighing about 13 milligrams. This iron wire is bent down so as to touch the coal sample in the tray. The tray is then placed in the bomb and the lid screwed down tightly against the lead gasket. Oxygen is forced into the bomb until the manometer recording the pressure within the bomb reads 18 to 20 atmospheres. The needle-point valve is then closed just tight enough to prevent leakage of gas. The oxygen must be admitted very slowly to avoid blowing any particles of coal dust out of the tray. With some extremely light materials, such as peat, it is best to briquet the sample and take a weighed portion of broken briquets instead of powdered material.

The bomb filled with oxygen is placed in the brass bucket, which contains about 2,400 cubic centimeters of distilled water, this bucket having been previously placed in the insulated jacket. The stirring apparatus is adjusted so that it touches neither bucket nor bomb. The thermometer is inserted until its bulb is about 5 centimeters from the bottom of the bucket and is in contact with no metal parts of the apparatus. The terminals of the bomb are connected with wires leading to the switch. After the stirrer has been in motion for about a minute—that is, after the water has been thoroughly mixed—the first reading of the thermometer is taken by means of a telescope attached to a cathetometer. The thermometer is graduated to 0.01° C.

The total time required for a determination may be divided into three periods—the preliminary period, the combustion period, and the final period. The preliminary period usually requires five readings taken one minute apart, or until the rate of change per minute is nearly constant. After taking the fifth reading the current, 75 volts, is turned on for about one-half second. This is the beginning of the combustion period. The first two readings in this period are taken one-half minute apart because the change in ratio is great. The temperature rises to a maximum and then begins to fall; after its rate of fall becomes uniform, the readings are taken every minute for five or six minutes. The final reading of the combustion period is the first reading taken after the rate of fall becomes uniform.

The following figures are from an actual determination and show the method of calculating the result and the corrections applied:

Method of calculating from calorimeter readings.

[Sample No. 10743. Weight 1.0000.]

Time. p. m.	*Readings.* °C.				
1.54	23.874	0.0058 rate of change			26.463°
.55	23.879	in preliminary period			23.897
.56	23.885			Observed temperature change	2.566
.57	23.892			Thermometer correction	.002
.58	(T) 23.897	+[a]0.0058			2.564
			+[b]0.0027	Heat loss	0.0066
.58½	24.160	+[a]0.0049			2.5706
			+[b]0.0014	Water equivalent	.3000
.59	25.430	+[a]0.0008		Total heat developed (calories)	7,711.8
			−[b]0.0006	Correction	41.4
.60	26.280	−[a]0.0020		Heat developed by combustion of sample (calories)	7,670.4
			−[b]0.0023		
2.01	26.439	−[a]0.0025			
			−[b]0.0026		
.02	26.463	−[a]0.0026			
			−[b]0.0026		
.03	26.466	−[a]0.0026			
			−[b]0.0026		
			− 0.0066 algebraic sum.		
.04	*t* 26.463				
.05	26.460				
.06	26.458				
.07	26.455	− 0.0026 rate of change in final period.			
.08	26.454				
.09	26.450				

	Calories.
Wire burned=11. 2 mg.	=19. 0
Titer (1 c. c.=5 cal.), 2. 5 c. c.	=12. 5
Sulphur (0. 01 gm.=13 cal.), 0. 76 gm.	= 9. 9
Room temperature=24° C.	

If A equals the rate of change during the preliminary period and B equals the rate of change during the final period, then $A-B$ equals the change in rate during the combustion period.

If T equals the initial temperature of the combustion period and t the final temperature of the combustion period, then $T-t$ equals the apparent change in temperature during the combustion period.

Then $\frac{A-B}{T-t}$ = the change in rate per degree of temperature change during the combustion period.

Let the temperature readings during the combustion period be represented by t_1, t_2, t_3, etc., or in general by t_n, then the computed rate per minute of temperature change at each reading is found by the following formula:

$$A-(t_n-T)\frac{A-B}{T-t}$$

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[a] Computed rate per minute of temperature change at each reading.

[b] Temperature correction for heat loss during each interval.

The temperature correction for heat loss during each interval is found by multiplying the mean of the computed rate per minute of temperature change for any two readings by the interval in minutes. The algebraic sum of these temperature corrections for heat loss equals the total correction for heat loss; this in the example given is −0.0066° C. This quantity is added to the observed temperature change (corrected for errors in the thermometer), and this sum multiplied by the weight of the water plus the water equivalent of the apparatus gives the total heat developed. Further corrections must be made for heat due to the formation of aqueous nitric acid and sulphuric acid and to the combustion of the iron wire. The correction for iron wire is 1.7 calories per milligram. The correction for sulphur burned to sulphuric acid is 13 calories per centigram. The correction for nitrogen to aqueous nitric acid is made by titrating the bomb liquor with standard ammonia solution (0.00574 gram NH_3 per c. c.). This solution is equivalent to 5 calories per cubic centimeter.

After the combustion of the coal in the calorimeter, the bomb is washed out thoroughly. The washings are titrated with standard ammonia solution (0.00574 gram per c. c.), methyl orange being used as an indicator. The acidity is due to the formation of nitric acid from the nitrogen of the coal and the nitrogen of the air in the bomb and to the sulphuric acid formed from the combustion of the sulphur in the coal. The sulphur can be easily determined by precipitation as barium sulphate. It is convenient to make the ammonia solution of such strength that 1 cubic centimeter is equivalent to 0.00473 gram of nitrogen, for this weight of nitrogen burned to N_2O_5 plus water generates 5 calories of heat. The figures are derived as follows:

The calorific value of nitrogen burning to N_2O_5 + water is 1,058 calories per gram.

$$1{,}058 \text{ calories} : 5 \text{ calories} = 1 \text{ gram} : 0.00473 \text{ gram}.$$

Therefore 0.00473 gram nitrogen generates 5 calories of heat when burned to aqueous HNO_3.

The ammonia solution is made up according to the equation:

$$HNO_3 + NH_3 = NH_4NO_3.$$

$$\text{Since } N = 14 \text{ and } NH_3 = 17,$$

$$14 : 17 = 0.00473 \text{ gram} : 0.00574 \text{ gram}.$$

Therefore 0.00574 gram NH_3 is equivalent to the nitrogen which when burned to aqueous HNO_3 generates 5 calories of heat. The standard solution contains 5.74 grams of NH_3 per liter. The solution, when used to titrate the bomb liquor after the combustion of a coal sample, must satisfy not only the nitric acid formed but also any sulphuric acid resulting from the combustion of the sulphur in the coal.

The strength of the ammonia solution in terms of sulphur in the form of sulphuric acid is determined by the following equation:

$$2NH_3 + H_2SO_4 = (NH_4)_2SO_4.$$

Since $2NH_3 = 34$ and $S = 32$,

$$34 : 32 = 0.00574 \text{ gram } NH_3 : 0.0054 \text{ gram S.}$$

The heat of combustion of sulphur to aqueous H_2SO_4 is 4,450 calories per gram of sulphur. In the ordinary combustion of coal under a boiler the sulphur burns to sulphur dioxide (SO_2), the heat of formation of which is 2,250 calories per gram of sulphur. The difference between these two calorific values (4,450 calories minus 2,250 calories) is 2,200 calories per gram of sulphur. The calorific value of a coal is determined to indicate the heat generated by that coal when burned under a boiler, and therefore it is necessary to make a correction in the calorimeter determinations, the difference in the calorific values due to the sulphur compounds formed, of 2,200 calories per gram of sulphur. One cubic centimeter of the ammonia solution is equivalent to 0.0054 gram of sulphur; 0.0054 times 2,200 equals 11.9 calories, the heat correction to be made if all the acidity of the liquor from the bomb represented H_2SO_4.

Hence the ammonia solution containing 0.00574 gram NH_3 per cubic centimeter is equivalent to 5 calories for nitrogen converted to aqueous nitric acid or to 11.9 calories for sulphur converted to aqueous H_2SO_4. A further correction, therefore, must be applied for the sulphur that is determined separately. This correction is a function of the difference between the value of the ammonia solution in terms of sulphur (11.9 calories), and its value in terms of nitrogen (5 calories) or 6.9 calories. The difference, 6.9, divided by 0.0054, the value of 1 cubic centimeter of ammonia solution in grams of sulphur, equals 12.76 calories per gram of sulphur, or 13 calories for each per cent of sulphur.

Thus the correction for total acidity equals the number of cubic centimeters of NH_3 solution multiplied by 5 (the factor for nitric acid) plus the percentage of sulphur multiplied by 13.

STANDARDIZATION OF THE CALORIMETER.

The first factor to be considered in calorimetric work is the correct determination of the water-equivalent value of the apparatus. This may be determined by a number of methods, as follows:

1. By adding the products of the weight of the different parts of the apparatus times their specific heat.

2. By generating heat within the bomb by passing a measured electric current through a known resistance.

3. By adding definite weights of water at different temperatures to the system and noting the corresponding temperature changes.

4. By varying the quantity of water surrounding the bomb and keeping the heat generated within the bomb constant.

5. By the combustion of a substance of known calorific value.

The bombs used in the Pittsburgh laboratory of the Bureau of Mines are standardized by the first and fifth methods.

STANDARDIZATION BY METHOD OF SPECIFIC HEATS.

Bomb No. 411 was standardized by the first method. The water equivalent value, 516, was derived in the manner shown below:

Standardization of calorimeter by method of specific heats.

	Weight (grams).	Specific heat.	Water equivalent.
Steel	3,946.4 ×	[a] 0.1097 =	432.92
Brass	732.9 ×	[a] 0.093 =	68.16
Lead, mercury, platinum	81.6 ×	[a] 0.0324 =	2.64
Enamel	20.0 ×	[b] 0.2045 =	4.09
Glass	11.5 ×	[c] 0.1988 =	2.29
Oxygen	14.0 ×	[a] 0.2175 =	3.05
Water	3.0 ×	1 =	3.00
			516.15

The standardization of a Mahler bomb calorimeter by the above method is rather unsatisfactory, because of the difficulty in accurately weighing all the parts. In fact, it is possible only to estimate the weights of such parts as the enamel. The immersion of the parts is another factor of considerable importance. Certain parts of the bucket, stirrer, and bomb are not completely immersed.

The water equivalent value obtained by this method was used to check the value obtained by the fifth method, the combustion of a substance of known calorific value.

STANDARDIZATION BY COMBUSTION OF MATERIAL OF KNOWN CALORIFIC VALUE.

The writer regards the determination of the water equivalent value of the calorimeter by the combustion of definite weights of substances of known calorific value as the most satisfactory method of standardization.

The following substances were used: Naphthalene, calorific value 9,660; benzoic acid, calorific value 6,322; and cane sugar, calorific value 3,959.

---

[a] Stohman. [b] Louguinine. [c] Landolt and Bornstein.

The average of 15 determinations with naphthalene, benzoic acid, and sugar gave 500 as the water equivalent of the calorimeter; 2,500 grams of water were added to the calorimeter so that the total water and water equivalent value of the apparatus was equivalent to 3,000 grams of water.

The average of four determinations on sucrose (supplied by the Bureau of Standards) having a calorific value of 3,957.6 calories per gram was, with this calorimeter, 3,955 calories per gram.

The average of nineteen determinations on benzoic acid (Kahlbaum's) was 6,336 calories per gram.

The calorific value of a number of substances is given in the following table:

Calorific value of various substances.

Substance.	Calorific value (calories per gram).	Authority.
Benzoic acid	6,322	Sherman and Snell.
Do	6,322	Atwater and Snell.
Do	6,322	Stohman.
Do	6,322	Berthelot.
Do	6,333	Fischer and Wrede.
Do	6,325	Roth.
Do	6,330	(Recommended by Bureau of Standards.)
Camphor	9,290	Atwater and Snell.
Do	9,292	Stohman.
Do	9,288	Berthelot.
Cane sugar	3,959	Sherman and Snell.
Do	3,959	Stohman.
Do	3,962	Berthelot.
Do	3,959	Tower.
Do	3,957	Fischer and Wrede.
Do	3,952	Roth.
Do	3,958	(Recommended by Bureau of Standards.)
Hippuric acid	5,664	Atwater and Snell.
Do	5,668	Stohman.
Do	5,659	Berthelot.
Naphthalene	9,692	Berthelot.
Do	9,628	Stohman.
Do	9,660	Atwater and Snell.
Do	9,640	Roth.

The values used by Atwater and Snell are averages of the Stohman and the Berthelot values.

IGNITING THE FUEL WITHIN THE BOMB.

The sample is ignited by an electrically heated iron-wire fuse mounted between two platinum terminals. The accompanying diagram (fig. 2) shows the electrical connections when the current is derived from a 220-volt direct-current circuit. The iron-wire fuse is in series with a lamp bank of sixteen 16-candlepower incandescent lamps. A second resistance of about 14 ohms is shunted across the heating coil. The purpose of the shunt is to reduce the voltage across the terminals of the heating coil after the coil is fused, and, consequently, to reduce the leakage of current between the terminals, which are partly immersed in the water surrounding the bomb. Observations made immediately after the fusing of the coil show that the electromotive force of the current at the terminals is 75 volts and the strength of the current is 0.0052 amperes. The insulation resistance is, therefore, 14,400 ohms.

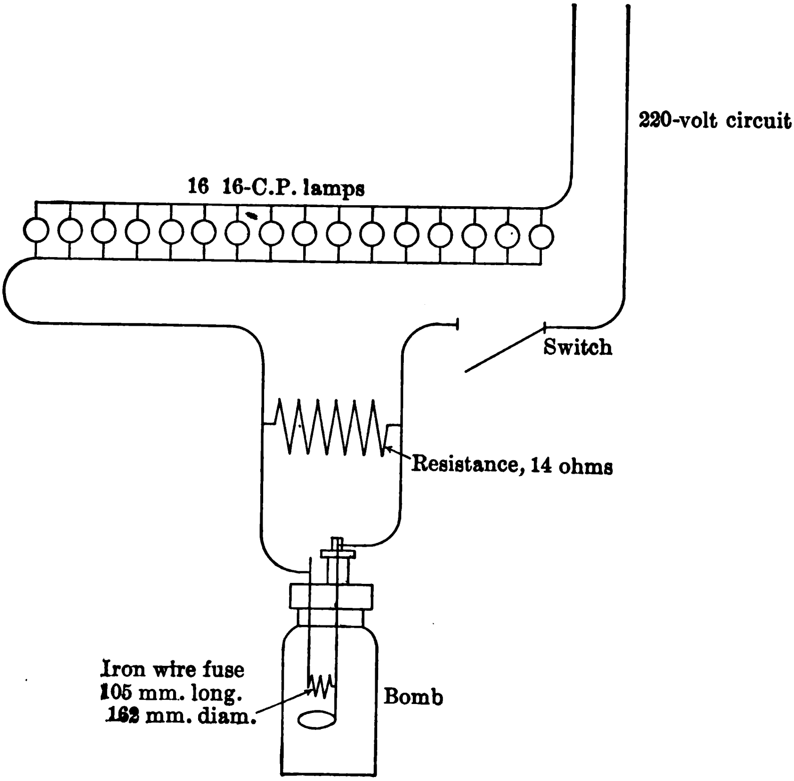

FIGURE 1. Electrical connections for fuse in calorimeter.

The water used in the calorimeter is changed twice each day, and not more than 10 determinations are made with the same water. In heating the iron wire-fuse the circuit is never closed for as long a time interval as one second; consequently, the heat imparted to the system by the passage of the current through the water is so small as to be negligible. If E equals the electromotive force, I the strength of the current, and *t* the time in seconds, then the heat generated by an electric current is equal to 0.239 EI*t*. Substitution of the above readings gives $0.239 \times 75 \times 0.0052 = 0.09$ calories per second—the quantity of heat generated per second by the electric current that passes through the bomb and water after the wire fuse is burned.

It is difficult to calculate the heat generated by the current in passing over the iron-wire fuse before the latter burns, because the resistance of the iron differs at different temperatures. However, the heat from this source is practically a constant for each determination.

The following table shows the quantity of energy dissipated by the circuit through the wire fuse as the number of lamps in the circuit is increased:

Heat dissipated by wire fuse of calorimeter.

Number of lamps in circuit.	Current passed.			Heat dissipated.
	Volts.	*Amperes.*	*Watts.*	*Calories per second.*
2	1.00	.41	.41	.10
3	1.03	.63	.65	.15
4	1.13	.85	.96	.23
5	1.26	1.06	1.34	.32
6	1.67	1.27	2.12	.51
7	1.99	1.46	2.91	.69
8	2.77	1.66	4.59	1.10
9	3.86	1.86	7.18	1.72
10	12.50	1.88	23.54	5.63
11[a]				

[a] Fuse wire burned.

The following shows the time required for the burning of the wire fuse when the number of lamps in the circuit is varied:

Time required for burning wire fuse of calorimeter.

Number of lamps in circuit.	Time required (seconds).
10 (wire does not burn).	
11	7.8
12	1.4
13	1.2
14	1.0
15	.8
16	less than .5

CALCULATION OF RESULTS.

For convenience in comparing the analyses, the results have been figured to different bases of comparison and are given for "coal as received," "moisture free" or "dry coal," and "coal, moisture and ash free." No claim is made that any of these results actually represent the so-called "pure coal" or "true coal substance."

"Pure coal" is a much-mooted question. It is difficult, if not impossible, to determine just how much of the ash and sulphur are in chemical combination with organic matter and form part of the "pure coal substance." Coal analyses reduced to the "moisture and ash free" basis are convenient for comparison and undoubtedly represent a close approximation to the "pure coal substance."

The calculations to the different bases of comparison are made according to the following formulas:

Calculation from "air dried" to "as received" condition.

"Air dried" condition. "As received" condition.

Moisture at 105° C. $\times\frac{100-\text{air dry loss}}{100}+\text{air dry loss}$ =moisture.

Volatile matter $\times\frac{100-\text{air dry loss}}{100}$ =volatile matter.

Fixed carbon $\times\frac{100-\text{air dry loss}}{100}$ =fixed carbon.

Ash $\times\frac{100-\text{air dry loss}}{100}$ =ash.

Sulphur $\times\frac{100-\text{air dry loss}}{100}$ =sulphur

Hydrogen $\times\frac{100-\text{air dry loss}}{100}+\frac{\text{air dry loss}}{9}$ =hydrogen.

Carbon $\times\frac{100-\text{air dry loss}}{100}$ =carbon.

Nitrogen $\times\frac{100-\text{air dry loss}}{100}$ =nitrogen.

Oxygen $\times\frac{100-\text{air dry loss}}{100}+\frac{8(\text{air dry loss})}{9}$ =oxygen.

Calorific value $\times\frac{100-\text{air dry loss}}{100}$ =calorific value.

Calories×1.8=B. t. u.

Du Long's formula for calculating the heat value from the ultimate analysis is as follows:

$$\text{Weight carbon}\times 8{,}080+\left(\text{weight hydrogen}-\frac{\text{weight oxygen}}{8}\right)\times 34{,}460+\text{weight sulphur}\times 2{,}250=\text{calories per gram.}$$

Calculation from "air dried" to "moisture free" condition.

"Air dried" condition. "Moisture free" condition.

Volatile matter $\times\frac{100}{100-\text{moisture}}$ =volatile matter

Fixed carbon $\times\frac{100}{100-\text{moisture}}$ =fixed carbon

Ash $\times\frac{100}{100-\text{moisture}}$ =ash

Sulphur $\times\frac{100}{100-\text{moisture}}$ =sulphur

Hydrogen$(-\frac{1}{9}$ moisture$)$ $\times\frac{100}{100-\text{moisture}}$ =hydrogen

Carbon $\times\frac{100}{100-\text{moisture}}$ =carbon

Nitrogen $\times\frac{100}{100-\text{moisture}}$ =nitrogen

Oxygen$(-\frac{8}{9}$ moisture$)$ $\times\frac{100}{100-\text{moisture}}$ =oxygen

Calorific value $\times\frac{100}{100-\text{moisture}}$ =calorific value

The analyses are calculated to the "moisture and ash free" basis by taking 100 − (moisture + ash) as a divisor and proceeding otherwise exactly as in the calculation to the "dry coal" basis.

EXPLANATION AND INTERPRETATION OF ANALYSES.

By A. C. Fieldner.

The analyses given in the following table are arranged in the manner thought to be the most convenient for ready reference. The coal-producing States, the counties, and the places at or near which the samples were collected are printed in alphabetical order. Thus the first sample in the table is under Alabama, Bibb County, and the location is given as "Belle Ellen, Youngblood bed," showing that the coal came from a mine working in the Youngblood bed, at or near Belle Ellen, Bibb County, Alabama. The descriptions of the situation of the points at which samples were taken in mines are believed to need little explanation. The term "cut" or "length of cut" refers to the thickness of the coal sampled, not the thickness of the bed. The term "waste sample" signifies that the sample represented coal not included in commercial shipments at the time of sampling.

The third column in the table shows the kind of sample, whether mine or car. The term "mine sample" refers to the small samples collected from the bed by representatives of the United States Geological Survey; the term "car sample" refers solely to the samples collected from cars of coal shipped to St. Louis by inspectors of the fuel-testing plant for tests in a large way.

The numerals in the fourth column of the table, headed "condition," refer to the ways of reporting each analysis: 1 signifies that the sample is figured on coal "as received," and shows the analysis corrected for the entire amount of moisture found in the sample; 2 refers to analysis on the "moisture-free" basis; 3 refers to the analysis on a "moisture and ash free" basis; 4 refers to the analysis calculated to a "moisture, ash, and sulphur free" basis.

PROXIMATE ANALYSIS.

In a proximate analysis the chemist determines important or technically known parts of a material, as moisture or ash. The term proximate does not signify that such an analysis is only approximately correct. With sufficient care the determinations of a proximate analysis may be closely duplicated provided the determinations are always made under exactly similar conditions.

MOISTURE.

The water in coal is usually classed under two heads: (*a*) Loosely retained or mechanically held moisture, such as is present in coal that has been rained on; (*b*) moisture retained by coal that has reached an air-dry condition. The main reason for air drying coal in the laboratory is to bring the coal into a condition that permits the making of the analysis with greatest convenience and accuracy. The extent to which coal dries varies with the temperature of the air, the humidity, and the fineness to which the coal is crushed.

A sample of coal that is air dried at ordinary temperatures until it does not lose weight retains moisture that is given off when the temperature rises. The proportion of this more tenaciously retained moisture is determined by heating the finely powdered air-dried sample in air at a temperature slightly above the boiling point of water. It is considered that one hour's heating at 105° C. (221° F.) expels all the free or loosely held water in coal. In the table the percentage of moisture given in the analysis for the "as received" condition represents all the moisture removed from the sample.

VOLATILE MATTER AND FIXED CARBON.

In the proximate analysis of coal, volatile matter and fixed carbon are determined by heating a finely powdered sample of the coal in a crucible, under prescribed conditions, for exactly 7 minutes. The volatile matter comprises combustible gases, some inert gas, and the water formed by the decomposition of the coal, but does not include the water removed from the coal by drying at a temperature of 105° C. The weight of the coke left in the crucible, less the weight of the ash, is reported as "fixed carbon." The weight of the fixed carbon does not represent all the carbon in the sample of the coal, as a considerable quantity of carbon combined with hydrogen is driven out in the volatile matter; furthermore, the fixed carbon is not pure carbon, but contains hydrogen, sulphur, oxygen, and nitrogen. It should be clearly understood that the term "volatile matter" or "volatile combustible matter" does not signify a definite compound that was in the coal before it was heated. Different degrees or rates of heating will give more or less volatile matter.

DIFFERENCES IN VOLATILE-MATTER DETERMINATIONS.

Volatile matter determinations made in different laboratories may not agree closely, even though each laboratory conforms to the method recommended by the American Chemical Society. This method prescribes the size of the flame, but does not consider the variations in flame temperature resulting from differences in the composition of the gas used and in the pressure at which it is supplied to the burner. Hence the volatile matter, and consequently the fixed carbon, determinations published in this bulletin are not didirectly comparable throughout, because the work was done in three different laboratories, under four different sets of conditions. In making comparisons, the determinations should be considered in four groups, as follows:

Group 1, laboratory Nos. 1 to 5146, inclusive. These determinations were made in the St. Louis laboratory, where gasoline gas was used for fuel.

Group 2, laboratory Nos. 5147 to 7100, inclusive. These determinations were made while the laboratory was in the Carnegie Technical Schools, Pittsburgh, Pa., where natural gas was used as fuel. There is no record of the pressure at which the natural gas was supplied to the burners, but this pressure was probably about 10 inches of water.

Group 3, laboratory Nos. 7101 to 9120, inclusive. These determinations were made after the removal of the laboratory to its present site, Fortieth and Butler Streets, Pittsburgh, Pa., where natural gas has been used for fuel. During the period of the determinations in this group, the low pressure of the gas at the burners gave much trouble. The pressure fluctuated between 1½ and 5 inches of water, apparently varying with the demands of certain industrial establishments that were taking gas from the same main.

Group 4, laboratory Nos. 9121 and over, were analyzed under the same conditions as group 3, except that the pressure of the gas at the burners was kept at 10 to 14 inches of water. With the use of the Tyrell burner and a polished platinum crucible a temperature of about 880° C. was maintained in the interior of the coke, at a point about 2 millimeters from the bottom of the crucible.

Comparisons of analyses of samples of coal from the same mine show that the volatile matter and the fixed carbon determinations of group 1 and group 4 agree fairly closely; the variations are both plus and minus and as a rule within 1 per cent. The determinations of group 3, however, are distinctly lower in volatile matter and higher in fixed carbon than are those of group 1 and of group 4. The differences are about 3 per cent for low-volatile semibituminous coals and anthracite, and decrease gradually, as the volatile matter in the coal increases, to about 1 per cent for bituminous coals. The volatile matter determinations made while the laboratory was in the Carnegie Technical Schools (group 2) fall about midway between the determinations at the St. Louis laboratory (group 1) and those made with natural gas under low pressure (group 3).

The volatile matter of some lignite and subbituminous coal samples, designated in the table of analysis by an asterisk (*), was determined by the modified official method. These samples were given a preliminary heating of 4 minutes over a small flame, and a final heating of 7 minutes over a flame 20 centimeters high.

ASH.

Ash represents the mineral impurities left after burning coal. The weight of ash, however, is usually slightly less than the original weight of the mineral matter in the coal. The sources of ash are: (1) Mineral matter intimately mixed with the coal substance; and (2) layers of shale or "slate," pyrites nodules, etc., in the coal bed.

The percentage of ash from the first source is fairly uniform in different parts of the same bed. The percentage of ash from the second source varies considerably, dependent on the number and thickness of the partings and the care with which these are separated from the coal in mining. Coal ash is composed largely of silica, alumina, iron, and lime. The silica and alumina are derived chiefly from sand, clay, and shale in the coal bed; the iron oxide from iron pyrites; and the lime from carbonate and sulphate of lime. An ash with a high percentage of iron and lime is easily fusible and is likely to clinker badly in a furnace.

ULTIMATE ANALYSIS.

In an ultimate analysis of coal the chemist determines the proportions of carbon, hydrogen, oxygen, nitrogen, sulphur, and ash in the sample. These determinations, with the exception of the oxygen, may be made with a fair degree of accuracy.

CARBON AND HYDROGEN.

Carbon and hydrogen are the most important constituents of the more combustible matter and the chief heat-producing elements in coal. The proportion of hydrogen in most coals is less than 6 per cent, being least in anthracite.

OXYGEN.

The proportion of oxygen is found by subtracting the sum of the carbon, hydrogen, nitrogen, sulphur, and ash from 100; hence the value found is affected by all errors made in the other determinations. All the oxygen in the coal is considered as being combined with the hydrogen in the ratio (1:8) to form water. Hence the hydrogen thus combined and not available for producing heat is equal to one-eighth of the oxygen; the balance of the hydrogen is considered as combined with the carbon and contributing to the heating value of the coal.

NITROGEN.

The proportion of nitrogen in coal usually averages from 1 per cent to 2 per cent. It is of interest mainly to the gas and coke manufacturer, who recovers part of the nitrogen as ammonia.

SULPHUR.

Sulphur, although classed as an impurity in coal, has a heating value when in the form of iron pyrites, of almost one-half that of the coal it replaces. For certain purposes, such as the manufacture of coke and illuminating gas, coals containing much sulphur are undesirable. Sulphur is commonly present as iron pyrites either in large lumps and bands or fine disseminated particles. It may also be present in combination with lime and magnesia as sulphates, or in combination with the coal substance as organic sulphur.

CALORIFIC POWER OR HEATING VALUE.

The calorific power or heating value of a fuel is the total amount of heat developed by the complete combustion of a unit weight of fuel. In the metric system of measurements the heat unit is the calorie. The calorie is the quantity of heat required to raise the temperature of 1 gram of water 1° C., the water being at the temperature at which its density is greatest. In the English system the heat unit is the British thermal unit. The British thermal unit is the quantity of heat required to raise the temperature of 1 pound of water 1° F., the water being at the temperature of maximum density, 39.1° F. Since 1 pound of a fuel will heat 1 pound of water to just the same degree that 1 gram of fuel will heat 1 gram of water, the relation between British thermal units and calories, if the weight of water and the weight of fuel are expressed in the same units, becomes that of the thermometric scales; and as a centigrade degree is nine-fifths of a Fahrenheit degree, heat values expressed as calories may be converted into British thermal units by multiplying by nine-fifths, or 1.8.

The most accurate method of determining the total heating value of coal is by burning a stated weight of it in a bomb calorimeter, as described on pages 17 and 18 of this report, and measuring the rise of temperature in a known quantity of water surrounding the bomb.

In general the heating value or calorific power of a coal is an index of its commercial value. The calorific power determined with a bomb calorimeter can not be obtained from the same coal burned in a boiler furnace, because heat is absorbed in evaporating the water in the coal and in heating to the temperature of the flue gas the products of combustion and the air supplied for combustion. These losses vary with the character of the coal and the way in which it is burned. The net heating value that remains after the subtraction of these unavoidable losses is called the "available calorific value," or the "low heating value."

SIGNIFICANCE OF THE RESULTS OF AN ANALYSIS.

The air-drying loss of a mine sample indicates to some degree the loss in weight after mining from the evaporation of loosely retained moisture. The analysis of the coal "as received" shows the actual composition of the coal in the mine. After the coal has left the mine its moisture content lies between the limits of coal "as received," and coal "air dried." The analysis on a "moisture free" basis, represents the composition of the coal after drying at 105° C. (221° F.). The analysis stated on a "moisture and ash free" basis represents approximately the heating value and composition of the dry organic matter. This relation seems to be fairly constant for the same coal bed in certain districts, especially in the Appalachian region. Comparison of numerous analyses shows that the "moisture and ash free" calorific values of different samples from the same mine and bed usually agree closely, provided the proportion and the character of the ash and the sulphur do not vary greatly.

COMMERCIAL VALUATION OF COALS.

For the commercial valuation of coals a proximate analysis and a calorific value determination are usually sufficient. Moisture and ash are of importance; they not only displace their own weights of combustible matter, but the evaporation of the moisture wastes heat. A high percentage of ash increases the cost of handling coal in a power plant and decreases the efficiency of the furnace. The ratio of the volatile matter to the fixed carbon indicates in a way the type of furnace best adapted for burning a coal with maximum efficiency. The smokeless combustion of coal containing a low percentage of volatile matter is not difficult in furnaces of ordinary types, but to burn a high volatile coal without smoke requires a suitably designed furnace. A high percentage of sulphur is undesirable in coal used for the manufacture of coke and gas. For ordinary steaming purposes sulphur is not a serious drawback unless associated with elements, such as iron or lime, that promote clinkering.

TABULATED ANALYSES.

On the following pages are given the analyses of the samples of coal collected by the United States Geological Survey during the period covered by this report. The detailed descriptions of the samples, the geologic relations of the coal beds from which they were taken, and notes on mining conditions, preparation, and marketing of the coal are given in Part II, pages 323–1158.

Table of chemical analyses.

Locality, bed, etc.	Sample.[a]			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.*	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.[b]	Page of this bulletin.[c]
ALABAMA.																	
BIBB COUNTY.																	
Belle Ellen, Belle Ellen No. 2 mine, sec. 15, T. 22 S., R. 5 W., Coke (or Youngblood) bed (2,000 feet west of opening, north heading 8, 2½-foot cut).	9254	B	1	3.12	31.41	59.70	5.77	1.24	......	......	......	......	2.1	7,795	14,031	431	331
			2	......	32.42	61.62	5.96	1.28	......	......	......	......	......	8,046	14,483		
			3	......	34.48	65.52	......	1.36	......	......	......	......	......	8,556	15,401		
Same (2,000 feet west of opening, room 33, south heading 9, 55-inch cut).	9255	B	1	3.16	31.05	59.56	6.23	1.20	5.33	78.28	1.37	7.59	2.0	7,856	14,141	431	331
			2	......	32.06	61.51	6.43	1.24	5.14	80.83	1.42	4.94	......	8,112	14,602		
			3	......	34.26	65.74	......	1.33	5.49	86.38	1.52	5.28	......	8,669	15,604		
3 miles north of; Cane Creek No. 2 mine, Youngblood bed (room 26 off heading 6, 900 feet northeast of slope, 34-inch cut).	3034	A	1	3.67	33.55	59.64	3.14	1.22	......	......	......	......	2.6	7,998	14,396	332	332
			2	......	34.83	61.91	3.26	1.27	......	......	......	......	......	8,302	14,944	18	
			3	......	36.00	64.00	......	1.31	......	......	......	......	......	8,583	15,449	23	
Same (room 19, entry 9, 1,500 feet northeast of slope, 35-inch cut).	3035	A	1	3.60	34.08	59.86	2.46	1.50	......	......	......	......	2.4	......	......	332	332
			2	......	35.35	62.10	2.55	1.56	......	......	......	......	......	......	......	18	
			3	......	36.28	63.72	......	1.60	......	......	......	......	......	......	......	23	
Same (run of mine)........................	3103	C	1	6.43	28.56	52.09	12.92	1.08	5.23	69.07	1.18	10.52	5.5	6,886	12,395	332	......
			2	......	30.52	55.67	13.81	1.15	4.83	73.81	1.26	5.14	......	7,359	13,247		
			3	......	35.41	64.59	......	1.34	5.60	85.64	1.46	5.96	......	8,538	15,378		
Blocton, 1¼ miles east of; Blocton No. 7 mine, Thompson bed (cross entry 6 off east heading 14, 61½-inch bed, 57¾-inch cut).	7394	A	1	3.21	32.05	60.79	3.95	.60	5.52	77.91	1.20	10.82	2.1	7,791	14,024	6	332
			2	......	33.11	62.81	4.08	.62	5.35	80.50	1.24	8.21	......	8,050	14,490		
			3	......	34.52	65.48	......	.65	5.58	83.92	1.29	8.56	......	8,392	15,106		
Same (east entry 2, room 9 off left crossheading, 60¾-inch cut).	7395	A	1	3.47	32.06	59.58	4.89	.65	......	......	......	......	2.4	7,660	13,788	6	332
			2	......	33.21	61.72	5.07	.67	......	......	......	......	......	7,935	14,283		
			3	......	34.98	65.02	......	.71	......	......	......	......	......	8,359	15,046		
Garnsey, sec. 7, T. 22 S., R. 4 W., No. 1 mine, Thompson bed (east cross entry 8, 2,700 feet south of slope, 4-foot cut).	3018	A	1	3.03	30.94	55.31	10.72	.49	......	......	......	......	1.6	7,241	13,034	332	333
			2	......	31.91	57.04	11.05	.51	......	......	......	......	......	7,467	13,441		
			3	......	35.87	64.13	......	.57	......	......	......	......	......	8,395	15,111		

[a] The kind of sample is denoted by letter, as follows: A=mine sample collected by an inspector of the technologic branch of the Survey; B=mine sample collected by a geologist of the Survey; C=car sample taken at the fuel-testing plant. The form of analysis is denoted by number, as follows: 1=sample as received; 2=dried at temperature of 105° C; 3=moisture and ash free; 4=moisture, ash, and sulphur free.

[b] Figures in roman type denote references to bulletins of the United States Geological Survey, those in heavy type to bulletins of the Bureau of Mines, and those in italics to professional papers of the United States Geological Survey.

[c] Figures in outside right-hand column refer to page of this bulletin where may be found the description of the section of the bed from which the sample was taken.

* The volatile matter of samples whose laboratory number is preceded by an asterisk (*) was determined by the modified official method (see p. 29).

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
ALABAMA—Continued.																	
BIBB COUNTY—continued.																	
Garnsey, No. 1 mine—Continued.																	
Same (room 2, west entry 7, 2,500 feet southwest of slope, 4½-foot cut).	3019	A	1	3.25	30.43	54.16	12.16	0.53	......	......	......	......	1.9	......	......	332	333
			2	......	31.45	55.98	12.57	.55	......	......	......	......	......	......	......		
			3	......	35.97	64.03	......	.63	......	......	......	......	......	......	......		
Same (run of mine)	3255	C	1	2.72	29.46	53.46	14.36	.55	4.55	69.99	1.14	9.41	1.2	6,923	12,461	332	......
			2	......	30.28	54.96	14.76	.57	4.37	71.95	1.17	7.18	......	7,117	12,810		
			3	......	35.52	64.48	......	.66	5.13	84.41	1.37	8.43	......	8,349	15,028		
Same (east heading 9, 66½-inch bed, 22-inch cut).	9249	B	1	3.46	31.68	54.97	9.89	.65	4.99	72.72	1.15	10.60	2.2	7,245	13,041	431	333
			2	......	32.81	56.95	10.24	.67	4.78	75.32	1.19	7.80	......	7,504	13,507		
			3	......	36.55	63.45	......	.75	5.33	83.91	1.33	8.68	......	8,360	15,048		
Same (east heading 9, 66½-inch bed, 32½-inch cut).	9250	B	1	3.55	29.25	53.69	13.51	.61	4.87	70.56	1.11	9.34	2.2	6,913	12,443	431	333
			2	......	30.33	55.66	14.01	.63	4.64	73.16	1.15	6.41	......	7,167	12,901		
			3	......	35.27	64.73	......	.73	5.40	85.08	1.34	7.45	......	8,334	15,001		
Same (entrance to west heading 8, 73-inch bed, 63½-inch cut).	9251	B	1	3.65	27.38	49.94	19.03	.57	......	......	......	......	2.5	6,487	11,677	431	333
			2	......	28.42	51.83	19.75	.59	......	......	......	......	......	6,733	12,119		
			3	......	35.41	64.59	......	.74	......	......	......	......	......	8,390	15,102		
Marvel, near, Daley mine, in sec. 6, T. 22 S., R. 4 W., Coke (Youngblood) bed, 100 feet north of main slope, 300 feet from mouth, 3½-foot cut	9666	B	1	4.83	31.40	52.40	11.37	.74	5.26	71.61	1.23	9.79	3.9	7,100	12,780	......	334
			2	......	33.00	55.05	11.95	.78	4.96	75.25	1.29	5.77	......	7,461	13,430		
			3	......	37.48	62.52	......	.89	5.63	85.46	1.47	6.55	......	8,473	15,251		
Marvel, Marvel mine (slope 1, first right heading, 200 feet south of mine mouth, Gholson bed, 46-inch cut).	9252	B	1	6.62	28.85	46.93	17.60	1.28	4.89	63.37	1.10	11.76	5.5	6,376	11,477	431	334
			2	......	30.90	50.25	18.85	1.37	4.44	67.86	1.18	6.30	......	6,828	12,290		
			3	......	38.08	61.92	......	1.69	5.47	83.62	1.45	7.77	......	8,414	15,145		
Same (slope 2, Clark bed, left heading 1, 37-inch cut).	9253	B	1	4.65	33.19	55.07	7.09	.69	5.03	74.85	1.18	11.16	3.5	7,437	13,387	431	334
			2	......	34.81	57.75	7.44	.72	4.73	78.50	1.24	7.37	......	7,800	14,040		
			3	......	37.61	62.39	......	.78	5.11	84.81	1.34	7.96	......	8,427	15,169		
Same (slope 2, Gholson lower bed, room 18, left heading 1, 53-inch cut).	10461	A	1	4.03	32.49	56.09	7.39	.85	......	......	......	......	2.3	......	......	......	334
			2	......	33.85	58.45	7.70	.89	......	......	......	......	......	......	......		
			3	......	36.67	63.33	......	.96	......	......	......	......	......	......	......		
Same (Gholson lower bed, face right heading 2, slope 2, 43½-inch cut).	10460	A	1	3.40	32.32	55.08	9.20	.70	......	......	......	......	2.1	......	......	......	334
			2	......	33.46	57.01	9.53	.72	......	......	......	......	......	......	......		
			3	......	36.98	63.02	......	.80	......	......	......	......	......	......	......		
Same (slope 2, room 1, left heading 2, 47½-inch cut).	10465	A	1	4.15	32.58	53.34	9.93	.96	......	......	......	......	2.7	......	......	......	334
			2	......	34.00	55.64	10.36	1.00	......	......	......	......	......	......	......		
			3	......	37.93	62.07	......	1.12	......	......	......	......	......	......	......		

Same (composite of Nos. 10460, 10461, and 10465).	10484	A	1	3.77	33.46	53.79	8.98	.85	5.14	74.20	1.30	9.53	2.4	7,384	13,291	......	334
			2	......	34.77	55.90	9.33	.88	4.91	77.11	1.35	6.42	......	7,673	13,811		
			3	......	38.35	61.65	......	.97	5.42	85.04	1.49	7.08	......	8,463	15,233		
Same (Clark upper bed, face of left heading 2, off slope 1, 40½-inch cut).	10462	A	1	4.56	31.87	56.51	7.06	.98	......	......	......	......	2.8	......	......	......	335
			2	......	33.39	59.21	7.40	1.03	......	......	......	......	......	......	......		
			3	......	36.06	63.94	......	1.11	......	......	......	......	......	......	......		
Same (Clark upper bed, left slope 3, off main slope, 45½-inch cut).	10463	A	1	2.80	32.85	53.92	10.43	1.42	......	......	......	......	1.4	......	......	......	335
			2	......	33.80	55.47	10.73	1.46	......	......	......	......	......	......	......		
			3	......	37.86	62.14	......	1.64	......	......	......	......	......	......	......		
Same (Clark upper bed, face of slope, air course, 47½-inch cut).	10464	A	1	2.88	33.81	57.01	6.30	.75	......	......	......	......	1.2	......	......	......	335
			2	......	34.81	58.70	6.49	.77	......	......	......	......	......	......	......		
			3	......	37.23	62.77	......	.82	......	......	......	......	......	......	......		
Same (composite of Nos. 10462-10464)........	10485	A	1	3.34	33.55	55.09	8.02	1.04	5.19	74.76	1.30	9.69	1.8	7,499	13,498	......	......
			2	......	34.72	56.98	8.30	1.08	4.99	77.35	1.34	6.94	......	7,758	13,964		
			3	......	37.86	62.14	......	1.18	5.44	84.35	1.46	7.57	......	8,460	15,228		
Piper, Piper No. 1 mine, Thompson (or Underwood) bed (3,500 feet from opening, east heading 15, 5-foot cut).	9243	B	1	3.1	35.0	55.8	6.1	.43	5.32	76.23	1.24	10.71	1.4	7,530	13,560	431	335
			2	......	36.0	57.7	6.3	.44	5.13	78.70	1.28	8.18	......	7,775	14,000		
			3	......	38.5	61.5	......	.47	5.47	83.97	1.37	8.72	......	8,300	14,930		
Same (3,500 feet from opening, west heading 15, 56-inch cut).	9244	B	1	2.64	35.67	56.24	5.45	.39	......	......	......	......	1.2	7,624	13,723	431	335
			2	......	36.64	57.76	5.60	.40	......	......	......	......	......	7,831	14,096		
			3	......	38.81	61.19	......	.42	......	......	......	......	......	8,295	14,931		
BLOUNT COUNTY.																	
Lehigh, No. 2 mine, Black Creek bed (left cross entry 9, 2,000 feet south of opening, 23½-inch cut).	4090	A	1	4.72	28.69	62.45	4.14	.83	......	......	......	......	3.6	......	......	332	336
			2	......	30.11	65.55	4.34	.87	......	......	......	......	......	......	......	336	
			3	......	31.48	68.52	......	.90	......	......	......	......	......	......	......		
Same (right entry 10, 2,100 feet south of opening, 28-inch cut).	4091	A	1	2.93	29.06	65.28	2.73	.65	......	......	......	......	1.9	8,163	14,693	332	336
			2	......	29.94	67.25	2.81	.67	......	......	......	......	......	8,410	15,137	336	
			3	......	30.81	69.19	......	.69	......	......	......	......	......	8,653	15,575		
Same (run of mine)........................	4252	C	1	5.59	25.05	53.28	16.08	1.40	4.70	66.58	1.27	9.97	4.4	6,616	11,906	332	......
			2	......	26.53	56.44	17.03	1.48	4.31	70.51	1.35	5.32	......	7,007	12,612		
			3	......	31.98	68.02	......	1.79	5.21	85.00	1.62	6.38	......	8,447	15,205		
Swansea, Fairchild mine, sec. 5, T. 14 S., R. 1 E., Swansea bed, 450 feet south of drift mouth, 57-inch cut.	2191	B	1	3.37	27.69	55.89	13.05	1.22	......	......	......	......	2.0	7,080	12,744	......	336
			2	......	28.66	57.83	13.51	1.26	......	......	......	......	......	7,328	13,190		
			3	......	33.14	66.86	......	1.46	......	......	......	......	......	8,471	15,248		
JEFFERSON COUNTY.																	
Adger, Blue Creek No. 3 mine Blue Creek bed (about 2,000 feet southeast of mouth, 8½-foot cut).	1145	B	1	2.88	25.98	60.96	10.18	.94	......	......	......	......	1.8	......	......	260	337
			2	......	26.75	62.77	10.48	.97	......	......	......	......	......	......	......	48	
			3	......	29.87	70.13	......	1.08	......	......	......	......	......	......	......		
Same, room 7, off third right heading (84½-inch cut).	1149	B	1	2.91	24.08	53.21	19.80	.70	......	......	......	......	2.2	......	......	260	337
			2	......	24.80	54.81	20.39	.73	......	......	......	......	......	......	......	48	
			3	......	31.15	68.85	......	.92	......	......	......	......	......	......	......		
Cardiff, 1 mile west of; sec. 16, T. 16 S., R. 4 W., No. 16 mine, Nickel Plate bed (lower 15-inch bench).	1931	B	1	1.76	28.52	54.08	15.64	4.05	......	......	......	......	1.0	......	......	285	338
			2	......	29.03	55.04	15.92	4.12	......	......	......	......	......	......	......		
			3	......	34.53	65.47	......	4.90	......	......	......	......	......	......	......		
Same (upper 17½-inch bench)................	1920	B	1	2.86	29.08	65.29	2.77	.95	......	......	......	......	1.3	......	......	285	338
			2	......	29.93	67.22	2.85	.98	......	......	......	......	......	......	......		
			3	......	30.81	69.19	......	1.01	......	......	......	......	......	......	......		
Same (Pratt bed, mouth of entry 4, on face of heading 3, 39-inch cut).	1917	B	1	1.83	29.28	57.53	11.36	4.24	......	......	......	......	.9	......	......	285	338
			2	......	29.83	58.60	11.57	4.32	......	......	......	......	......	......	......		
			3	......	33.73	66.27	......	4.89	......	......	......	......	......	......	......		
Same (right heading 5, off entry 3, 40-inch cut).	1918	B	1	2.88	29.56	56.91	10.65	2.04	......	......	......	......	1.6	7,477	13,459	285	338
			2	......	30.44	58.59	10.97	2.10	......	......	......	......	......	7,699	13,858		
			3	......	34.19	65.81	......	2.36	......	......	......	......	......	8,647	15,565		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
ALABAMA—Continued.																	
JEFFERSON COUNTY—continued.																	
Clift, sec. 22, T. 16 S., R. 3 W., Clift mine (Pratt bed, main entry, at No. 3 cut, 800 feet from mouth, 35½-inch cut).	1754	B	1	2.66	29.93	59.04	8.37	1.71	......	......	......	......	1.6	......	......	285	339
			2	......	30.75	60.65	8.60	1.76	......	......	......	......	......	......	......		
			3	......	33.64	66.36	......	1.93	......	......	......	......	......	......	......		
Dolomite, No. 2 mine, Pratt bed (77-inch cut).	3579	B	1	3.16	25.40	67.75	3.69	.56	5.05	82.28	1.36	7.06	2.0	8,120	14,616	285	339
			2	......	26.23	69.96	3.81	.58	4.85	84.96	1.40	4.40	......	8,385	15,093		
			3	......	27.26	72.74	......	.60	5.05	88.33	1.46	4.56	......	8.717	15,691		
Same (68-inch cut)	3580	B	1	3.08	26.86	66.31	3.75	.55	5.30	82.04	1.48	6.88	2.0	8,156	14,681	285	339
			2	......	27.71	68.42	3.87	.57	5.12	84.65	1.53	4.26	......	8,415	15,147		
			3	......	28.83	71.17	......	.59	5.32	88.05	1.59	4.45	......	8,754	15,757		
Same (2 miles southeast of opening, room 30 off west heading 31, 48½-inch cut).	4292	A	1	3.23	26.97	65.97	3.83	.57	......	......	......	......	2.3	......	......	332	339
			2	......	27.87	68.17	3.96	.59	......	......	......	......	......	......	......	18	
			3	......	29.02	70.98	......	.61	......	......	......	......	......	......	......	28	
Same (2 miles east of opening, east heading 29)	4293	A	1	2.81	26.52	67.16	3.51	.59	......	......	......	......	2.2	8,135	14,643	332	339
			2	......	27.29	69.10	3.61	.61	......	......	......	......	......	8,370	15,065	18	
			3	......	28.31	71.69	......	.63	......	......	......	......	......	8,683	15,629	28	
Same (run of mine, sample 1)	4338	C	1	3.23	26.16	63.90	6.71	.61	4.99	78.33	1.42	7.94	2.4	7,819	14,074	332	......
			2	......	27.03	66.04	6.93	.63	4.78	80.95	1.47	5.24	......	8,080	14,544		
			3	......	29.05	70.95	......	.68	5.14	86.98	1.58	5.62	......	8,683	15,629		
Same (run of mine, sample 2)	4353	C	1	3.56	26.24	63.25	6.95	.58	......	......	......	......	2.8	......	......	332	......
			2	......	27.21	65.58	7.21	.60	......	......	......	......	......	......	......		
			3	......	29.32	70.68	......	.65	......	......	......	......	......	......	......		
Henryellen, 2 miles southwest of; No. 6 mine, Mammoth bed, 5-foot cut.	3460	B	1	2.51	33.81	56.85	6.83	.48	......	......	......	......	1.0	......	......	316	340
			2	......	34.68	58.31	7.01	.49	......	......	......	......	......	......	......		
			3	......	37.29	62.71	......	.53	......	......	......	......	......	......	......		
Johns, Johns mine, Blue Creek bed, 91½-inch bed (room 30, east heading 3, 1,600 feet east of mouth, 77½-inch cut).	1148	B	1	3.37	25.77	61.21	9.65	.94	......	......	......	......	2.8	7,582	13,648	260	340
			2	......	26.67	63.34	9.99	.97	......	......	......	......	......	7,846	14,123	*48*	
			3	......	29.63	70.37	......	1.08	......	......	......	......	......	8,718	15,692		
Same (room 12, east heading 11, 5,800 feet south of slope mouth, 90½-inch cut).	1146	B	1	2.63	26.49	59.63	11.25	.97	......	......	......	......	1.7	......	......	260	340
			2	......	27.21	61.24	11.55	1.00	......	......	......	......	......	......	......	*48*	
			3	......	30.76	69.24	......	1.13	......	......	......	......	......	......	......		
Lewisburg, sec. 1, T. 17 S., R. 3 W., Mary Lee mine, Mary Lee bed bottom of main slope (lower bench, 38-inch cut).	2431	B	1	2.16	27.11	55.47	15.26	.93	......	......	......	......	1.3	......	......	285	341
			2	......	27.71	56.69	15.60	.95	......	......	......	......	......	......	......		
			3	......	32.83	67.17	......	1.13	......	......	......	......	......	......	......		

Same (upper bench, 24-inch cut)	2432	B	1	2.49	27.34	57.14	13.03	1.37					1.2			285	341
			2		28.04	58.60	13.36	1.40									
			3		32.36	67.64		1.62									
Littleton, sec. 6, T. 16 S., R. 4 W., Thomas mine, Mary Lee bed, left cross heading 9 (bottom bench, 35-inch cut).	1989	B	1	2.89	28.87	59.94	8.30	.63					1.6			285	342
			2		29.73	61.72	8.55	.65									
			3		32.51	67.49		.71									
Same (middle bench, 19-inch cut)	1990	B	1	3.40	26.68	59.53	10.39	.65					2.0			285	342
			2		27.62	61.64	10.76	.67									
			3		30.94	69.06		.75									
Same (top bench, 18-inch cut)	1919	B	1	3.14	28.46	59.35	9.05	1.05					1.6			285	342
			2		29.38	61.28	9.34	1.08									
			3		32.41	67.59		1.19									
Same (left cross heading 10, whole bed, 77½-inch cut).	1930	B	1	3.35	26.92	59.01	10.72	.67					2.2	7,369	13,264	285	342
			2		27.85	61.06	11.09	.69						7,625	13,725		
			3		31.32	68.68		.78						8,576	15,437		
Same (run of mine, from car at mine)	4011	C	1	3.16	25.38	56.80	14.66	.91					2.2				
			2		26.21	58.65	15.14	.94									
			3		30.88	69.12		1.11									
Lovick, near; Rutliffe mine, Gould bed, 27½-inch cut	3499	B	1	1.98	30.66	58.95	8.41	1.09	4.94	76.03	1.68	7.85	.8	7,563	13,613	316	343
			2		31.28	60.14	8.58	1.11	4.82	77.57	1.71	6.21		7,716	13,888		
			3		34.23	65.77		1.22	5.27	84.84	1.87	6.80		8,440	15,192		
Mineral Springs, sec. 17, T. 16 S., R. 3 W., Kosmo mine, Nickel-Plate bed, room 3, 31-inch cut.	1768	B	1	2.27	26.86	55.82	15.05	2.45					1.1			285	343
			2		27.48	57.12	15.40	2.51									
			3		32.48	67.52		2.97									
Mulga, Mulga mine, Pratt bed (room 1, left entry 1, off north heading, 51½-inch bed, 43½-inch cut).	10509	A	1	2.07	26.87	66.02	5.04	1.29					1.3				343
			2		27.44	67.41	5.15	1.32									
			3		28.93	71.07		1.39									
Same (last crosscut in right entry 1, off left entry 1, 52-inch bed, 43-inch cut).	10507	A	1	2.46	25.26	67.29	4.99	1.60					1.6				343
			2		25.90	68.98	5.12	1.64									
			3		27.30	72.70		1.73									
Same (composite of Nos. 10507 and 10509)	10513	A	1	2.38	25.90	66.84	4.88	1.46	5.16	81.68	1.53	5.29	1.5	8,048	14,487		343
			2		26.53	68.47	5.00	1.50	5.02	83.67	1.57	3.24		8,244	14,839		
			3		27.93	72.07		1.58	5.28	88.07	1.65	3.42		8,678	15,620		
Palos, Palos mine, Big or Mary Lee bed (room 5, cross entry 1, off left entry 4, 71½-inch bed, 70-inch cut).	10506	A	1	2.51	26.62	64.09	6.78	.63					1.7				344
			2		27.30	65.75	6.95	.65									
			3		29.34	70.66		.70									
Same (room 1, cross entry 1, off right entry 4, 72½-inch bed, 71½-inch cut).	10505	A	1	2.72	24.35	65.37	7.56	.49					1.9				344
			2		25.03	67.20	7.77	.50									
			3		27.14	72.86		.54									
Same (composite of Nos. 10505 and 10506)	10514	A	1	2.69	25.93	64.16	7.22	.61	5.18	78.80	1.75	6.44	1.8	7,774	13,993		
			2		26.65	65.93	7.42	.63	5.01	80.47	1.80	4.17		7,989	14,380		
			3		28.80	71.20		.68	5.41	87.46	1.94	4.51		8,629	15,532		
Pinkney, sec. 22, T. 16 S., R. 4 W., Tutweiler No. 3 drift, Nickle Plate 30½-inch bed (right heading 4).	1794	B	1	3.35	26.41	57.58	12.66	1.84					2.1	7,247	13,045	285	345
			2		27.33	59.57	13.10	1.90						7,498	13,497		
			3		31.45	68.55		2.19						8,628	15,530		
Same (left heading 2)	1793	B	1	3.10	25.31	56.15	15.44	3.11					1.9			285	345
			2		26.12	57.95	15.93	3.21									
			3		31.07	68.93		3.82									
Same (Pratt bed, 31-inch cut, 600 feet from main entry, left heading 7).	1933	B	1	2.07	26.80	61.28	9.85	2.13					1.4			285	345
			2		27.37	62.57	10.06	2.17									
			3		30.43	69.57		2.41									

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
ALABAMA—Continued.																	
JEFFERSON COUNTY—continued.																	
Pinkney, Tutweiler No. 3 drift—Continued.																	
Same, Pratt bed (900 feet from main entry, right heading 9).	1932	B	1	2.27	27.00	57.70	13.03	1.79	......	......	......	......	1.4	......	......	285	345
			2	......	27.63	59.04	13.33	1.83	......	......	......	......	......	......	......		
			3	......	31.88	68.12	......	2.11	......	......	......	......	......	......	......		
Republic, sec. 31, T. 16 S., R. 3 W., Warner mine, Pratt bed (43-inch cut).	1755	B	1	2.51	27.10	59.96	10.43	1.68	......	......	......	......	1.6	7,571	13,628	285	346
			2	......	27.80	61.50	10.70	1.72	......	......	......	......	......	7,766	13,979		
			3	......	31.13	68.87	......	1.93	......	......	......	......	......	8,696	15,653		
Same (left heading 12, room 19, 43-inch cut)....	1756	B	1	2.68	25.17	61.82	10.33	1.86	......	......	......	......	1.8	......	......	285	346
			2	......	25.86	63.53	10.61	1.91	......	......	......	......	......	......	......		
			3	......	28.93	71.07	......	2.14	......	......	......	......	......	......	......		
Seloca, sec. 26, T. 14 S., R. 3 W., run of Seloca mine from car at mine, Jefferson bed.	3948	C	1	3.23	29.00	56.74	11.03	2.58	4.83	72.43	1.56	7.57	2.2	7,313	13,163	......	......
			2	......	29.97	58.63	11.40	2.67	4.62	74.85	1.61	4.85	......	7,557	13,603		
			3	......	33.83	66.17	......	3.01	5.21	84.48	1.82	5.48	......	8,529	15,352		
Warrior, sec. 26, T. 14 S., R. 3 W., Watt mine (Black Creek bed, 39½-inch cut).	3949	B	1	1.32	33.23	63.58	1.87	.73	5.29	83.20	1.77	7.14	.3	8,427	15,169	285	346
			2	......	33.68	64.42	1.90	.74	5.21	84.31	1.79	6.05	......	8,540	15,372		
			3	......	34.32	65.68	......	.75	5.31	85.95	1.83	6.16	......	8,705	15,669		
Same (Jefferson bed, 27-inch cut).............	3944	B	1	2.18	31.71	63.32	2.79	1.07	4.98	80.86	1.71	8.59	1.0	8,231	14,816	285	346
			2	......	32.42	64.73	2.85	1.09	4.85	82.06	1.75	6.80	......	8,414	15,145		
			3	......	33.37	66.63	......	1.13	4.99	85.09	1.80	6.99	......	8,661	15,590		
Wylam, sec. 36, T. 17 S., R. 4 W., Pratt No. 4 mine, Pratt bed, 52½-inch cut (Kelso entry, room 5).	2433	B	1	1.86	28.52	64.73	4.89	2.27	......	......	......	......	.9	......	......	285	347
			2	......	29.06	65.96	4.98	2.31	......	......	......	......	......	......	......		
			3	......	30.58	69.42	......	2.43	......	......	......	......	......	......	......		
Same (room 1, cross heading 6).............	2430	B	1	1.63	30.81	64.03	3.53	.57	......	......	......	......	.8	......	......	285	347
			2	......	31.35	65.09	3.59	.58	......	......	......	......	......	......	......		
			3	......	32.49	67.51	......	.60	......	......	......	......	......	......	......		
ST. CLAIR COUNTY.																	
Davis (Tillman station), Margaret No. 1 mine, Harkness bed, 800 feet from slope mouth, main entry, 44½-inch cut.	3484	B	1	3.39	30.69	57.08	8.84	2.34	5.18	73.81	1.53	8.30	1.8	7,424	13,363	316	347
			2	......	31.77	59.08	9.15	2.42	4.97	76.40	1.58	5.48	......	7,685	13,832		
			3	......	34.96	65.04	......	2.67	5.47	84.11	1.74	6.01	......	8,458	15,224		
SHELBY COUNTY.																	
Aldrich, Aldrich mine, Montevallo bed (west heading 9 just off main slope, 31-inch cut).	9339	B	1	2.39	36.01	52.50	9.10	.79	5.20	74.33	1.02	9.56	1.1	7,417	13,351	431	348
			2	......	36.89	53.79	9.32	.81	5.05	76.15	1.04	7.63	......	7,599	13,678		
			3	......	40.68	59.32	......	.89	5.57	83.98	1.15	8.41	......	8,380	15,084		

Same (room 37 off west heading 6, 34-inch cut)..	9340	B	1	10.97	30.17	47.11	11.75	.68	......	......	......	......	9.8	6,447	11,605	431	348
			2	......	33.89	52.91	13.20	.76	......	......	......	......	......	7,241	13,034		
			3	......	39.04	60.96	......	.88	......	......	......	......	......	8,342	15,016		
Coalmont, Coalmont mine, Thompson bed, (58-inch cut).	3745	B	1	2.75	32.56	58.46	6.23	.87	5.08	76.55	1.12	10.15	1.1	7,699	13,858	316	349
			2	......	33.48	60.11	6.41	.89	4.90	78.72	1.15	7.93	......	7,916	14,250		
			3	......	35.77	64.23	......	.96	5.24	84.11	1.23	8.46	......	8,460	15,228		
Falliston, half mile east of; Falliston mine, Buck bed, 29-inch cut.	3744	B	1	2.60	34.21	60.01	3.18	.66	5.32	78.62	1.32	10.90	1.1	8,026	14,447	316	349
			2	......	35.12	61.61	3.27	.68	5.16	80.72	1.35	8.82	......	8,240	14,732		
			3	......	36.30	63.70	......	.70	5.34	83.43	1.40	9.13	......	8,517	15,331		
Glen Carbon, Glen Carbon mine, Black Shale (Gholson) bed (heading C, 37-inch bed, 37-inch cut).	10503	A	1	2.21	31.45	61.56	4.78	.63	......	......	......	......	.9	......	......	......	349
			2	......	32.16	62.95	4.89	.64	......	......	......	......	......	......	......		
			3	......	33.81	66.19	......	.67	......	......	......	......	......	......	......		
Same (east heading 11, 35-inch bed, 25-inch cut).	10504	A	1	3.21	31.51	61.57	3.71	.59	......	......	......	......	1.7	......	......	......	349
			2	......	32.56	63.61	3.83	.61	......	......	......	......	......	......	......		
			3	......	33.86	66.14	......	.63	......	......	......	......	......	......	......		
Same (west heading 6, 36-inch bed, 36-inch cut).	10502	A	1	2.58	33.26	60.07	4.09	.46	......	......	......	......	1.2	......	......	......	349
			2	......	34.14	61.66	4.20	.47	......	......	......	......	......	......	......		
			3	......	35.64	64.36	......	.49	......	......	......	......	......	......	......		
Same (composite of Nos. 10502–10504)..........	10515	A	1	2.95	32.60	60.10	4.35	.61	5.43	80.65	1.36	7.60	1.3	7,917	14,251	......	349
			2	......	33.59	61.93	4.48	.63	5.26	83.10	1.40	5.13	......	8,158	14,684		
			3	......	35.17	64.83	......	.66	5.51	87.00	1.47	5.36	......	8,541	15,374		
Same (room 15, off east heading 12, 3,000 feet in mine, 3½-foot cut).	9667	B	1	3.11	32.48	61.11	3.30	.61	5.48	80.69	1.25	8.67	2.0	8,031	14,456	316	349
			2	......	33.52	63.07	3.41	.63	5.29	83.28	1.29	6.10	......	8,289	14,920		
			3	......	34.70	65.30	......	.65	5.48	86.22	1.34	6.31	......	8,582	15,448		
Helena, 4½ miles northeast of; in Acton Basin, prospect, Thompson bed, near mouth of slope (lower bench), 15-inch cut.	3709	B	1	3.59	33.18	58.67	4.56	1.08	5.13	77.57	1.23	10.43	2.0	7,805	14,049	316	350
			2	......	34.41	60.86	4.73	1.12	4.91	80.46	1.28	7.50	......	8,095	14,571	431	
			3	......	36.12	63.88	......	1.18	5.15	84.45	1.34	7.88	......	8,497	15,295		
5 miles northeast of; Helena bed, Acton No. 2 mine, 68-inch cut.	3771	B	1	2.74	33.34	58.22	5.70	.44	5.20	77.96	1.52	9.18	.9	7,772	13,990	431	350
			2	......	34.28	59.86	5.86	.45	5.04	80.16	1.56	6.93	......	7,991	14,385		
			3	......	36.41	63.59	......	.48	5.35	85.15	1.66	7.36	......	8,489	15,281		
Maylene, 1¼ miles southwest of sec. 20, T. 21 S., R. 3 W.; Climax mine, face of west heading 14, 2,000 feet in mine, Maylene bed.	9610	B	1	3.28	32.16	55.93	8.63	.41	5.01	74.25	1.12	10.58	1.7	7,315	13,167	431	351
			2	......	33.25	57.83	8.92	.42	4.81	76.77	1.16	7.92	......	7,563	13,613		
			3	......	36.51	63.49	......	.46	5.28	84.29	1.27	8.70	......	8,303	14,945		
Straven, Straven mine, Montevallo (?) bed, room 5, off west heading 5, 900 feet in mine, 2-foot cut.	9611	B	1	3.83	32.03	58.66	5.48	.97	5.29	77.26	1.25	9.75	2.2	7,666	13,799	431	351
			2	......	33.30	61.00	5.70	1.01	5.05	80.33	1.30	6.61	......	7,971	14,348		
			3	......	35.31	64.69	1.07	......	5.36	85.18	1.39	7.00	......	8,454	15,214		
Same (room 15, off east heading 5, 900 feet in mine).	9612	B	1	3.79	31.35	54.30	10.56	.67	......	......	......	......	2.1	7,162	12,892	481	351
			2	......	32.59	56.43	10.88	.70	......	......	......	......	......	7,444	13,399		
			3	......	36.61	63.39	......	.78	......	......	......	......	......	8,362	15,052		
Sydenton, 1 mile west of; Star-Cahaba No. 1 (Elvira) mine, Gould bed, 4-foot cut.	3646	B	1	2.12	28.15	61.50	8.23	1.98	......	......	......	......	.8	......	......	316	351
			2	......	28.76	62.83	8.41	2.02	......	......	......	......	......	......	......		
			3	......	31.39	68.61	......	2.21	......	......	......	......	......	......	......		
Tacoa, 1 mile west of; Star-Cahaba No. 2 mine (entrance to mine), Wadsworth bed, weathered, 3-foot cut.	3770	B	1	3.65	33.74	58.86	3.75	.48	5.48	80.12	1.51	8.66	2.4	7,976	14,357	316	352
			2	......	35.02	61.09	3.89	.50	5.26	83.16	1.57	5.62	......	8,278	14,900		
			3	......	36.44	63.56	......	.52	5.48	86.52	1.63	5.85	......	8,613	15,503		
TUSCALOOSA COUNTY.																	
Abernant, sec. 18, T. 20 S., R. 6 W., Abernant mine, Jagger bed (sample 1).	2538	B	1	1.60	24.98	68.55	4.87	.51	......	......	......	......	.8	8,165	14,697	260	352
			2	......	25.39	69.66	4.95	.52	......	......	......	......	......	8,298	14,937	400	
			3	......	26.71	73.29	......	.55	......	......	......	......	......	8,730	15,714		
Same (sample 2)...............................	2540	B	1	4,00	24.42	64.44	7.14	.76	......	......	......	......	2.8	......	......	260	352
			2	......	25.44	67.12	7.44	.79	......	......	......	......	......	......	......	400	
			3	......	27.49	72.51	......	.85	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
ALABAMA—Continued.																	
TUSCALOOSA COUNTY—continued.																	
Brookwood, Brookwood No. 10 mine, Carter bed, 35-inch bed, 34-inch cut.	1187	B	1	3.85	30.80	59.70	5.65	0.78	......	......	......	......	3.4	......	......	260	352
			2	......	32.03	62.09	5.88	.81	......	......	......	......	......	......	......	*48*	
			3	......	34.03	65.97	......	.86	......	......	......	......	......	......	......	400	
Brookwood No. 12 mine, Brookwood bed, 38½-inch cut, in right heading 1.	1185	B	1	2.78	28.71	52.24	16.27	1.26	......	......	......	......	2.2	......	......	260	353
			2	......	29.53	53.73	16.74	1.30	......	......	......	......	......	......	......	400	
			3	......	35.47	64.53	......	1.56	......	......	......	......	......	......	......		
Same, Brookwood No. 7 mine, Milldale bed 2-foot 2½-inch cut, west entry 12.	1186	B	1	1.96	31.55	60.96	5.53	1.11	......	......	1.53	......	1.5	7,980	14,364	260	353
			2	......	32.18	62.18	5.64	1.13	......	......	1.56	......	......	8,140	14,651		
			3	......	34.10	65.90	......	1.20	......	......	1.65	......	......	8,626	15,527		
Kellerman, central drift, Brookwood bed, 71½-inch cut..	1164	B	1	3.81	30.19	55.99	10.01	1.49	......	......	......	......	2.8	......	......	260	354
			2	......	31.38	58.21	10.41	1.55	......	......	......	......	......	......	......	*48*	
			3	......	35.03	64.97	......	1.73	......	......	......	......	......	......	......		
Rock Castle, sec. 25, T. 20 S., R. 7 W., Rock Castle mine, Jagger bed, 500 feet from mouth, 70-inch cut.	2539	B	1	1.73	26.87	64.96	6.94	.89	......	......	......	......	.7	......	......	260	354
			2	......	26.83	66.11	7.06	.91	......	......	......	......	......	......	......	400	
			3	......	28.87	71.13	......	.98	......	......	......	......	......	......	......		
Searles, Searles mine, Brookwood bed, room 3 off left heading 7, 64-inch cut.	1210	B	1	2.35	32.36	58.15	7.14	1.87	......	......	......	......	1.3	......	......	260	355
			2	......	33.14	59.55	7.31	1.40	......	......	......	......	......	......	......	400	
			3	......	35.75	64.25	......	1.51	......	......	......	......	......	......	......	*48*	
Tidewater, Tidewater mine, Brookwood bed, 600 feet from drift mouth, 37½-inch cut.	1593	B	1	2.08	34.68	51.68	11.56	1.57	......	......	......	......	.8	......	......	260	355
			2	......	35.42	52.77	11.81	1.60	......	......	......	......	......	......	......	400	
			3	......	40.16	59.84	......	1.81	......	......	......	......	......	......	......	*48*	
Yolande, Yolande No. 1 mine, main entry, 250 feet from mouth, Jagger 97-inch bed, 75-inch cut.	2543	B	1	3.21	23.20	64.09	9.50	.79	......	......	......	......	1.8	......	......	260	356
			2	......	23.97	66.21	9.82	.82	......	......	......	......	......	......	......	400	
			3	......	26.58	73.42	......	.91	......	......	......	......	......	......	......		
WALKER COUNTY.																	
Carbon Hill, three-fourths mile northwest of; Chickasaw No. 5 mine, Jagger bed (2,000 feet from foot of slope, west entry 3 off main north entry, 53½-inch bed, 45½-inch cut).	1075	A	1	2.25	35.70	53.01	9.04	1.09	......	......	1.64	......	......	7,296	13,133	18	356
			2	......	36.52	54.23	9.25	1.12	......	......	1.68	......	......	7,464	13,435	22	
			3	......	40.25	59.75	......	1.23	......	......	1.85	......	......	8,225	14,805	*48*	
Same (1,200 feet from foot of slope, east entry 4).	1076	A	1	2.42	34.83	51.62	11.13	1.10	......	......	......	......	......	7,053	12,695	261	356
			2	......	35.69	52.90	11.41	1.13	......	......	......	......	......	7,228	13,010	*48*	
			3	......	40.29	59.71	......	1.28	......	......	......	......	......	8,159	14,686		

Same (3,500 feet northeast of slope, left entry 3 off main north entry. 53-inch bed, 45-inch cut).	3011	A	1	4.71	31.80	53.32	10.17	1.33	......	......	......	......	2.7	6,998	12,596	332	356
			2	......	33.37	55.96	10.67	1.39	......	......	......	......	......	7,344	13,219		
			3	......	37.35	62.65	......	1.56	......	......	......	......	......	8,221	14,798		
Same (3,500 feet north of slope, north entry 1 off old west entry, 4½-foot bed, 46¾-inch cut).	3012	A	1	4.51	31.81	54.76	8.92	1.48	......	......	......	......	2.4	......	......	332	356
			2	......	33.31	57.35	9.34	1.55	......	......	......	......	......	......	......		
			3	......	36.74	63.26	......	1.71	......	......	......	......	......	......	......		
Same (over ¾-inch screen)......................	1225	C	1	3.36	32.88	51.33	12.43	1.01	4.84	68.69	1.54	11.49	.8	6,861	12,350	261	......
			2	......	34.02	53.12	12.86	1.05	4.62	71.08	1.59	8.80	......	7,099	12,779	*48*	
			3	......	39.04	60.96	......	1.20	5.31	81.57	1.83	10.09	......	8,147	14,665		
Same (run of mine)...........................	3211	C	1	3.95	30.70	50.76	14.59	1.12	4.57	66.21	1.49	12.02	1.7	6,547	11,785	332	......
			2	......	31.96	52.85	15.19	1.17	4.30	68.93	1.55	8.86	......	6,816	12,269		
			3	......	37.68	62.32	......	1.37	5.07	81.28	1.83	10.45	......	8,037	14,467		
Horse Creek, 1½ miles west of, No. 8 mine, Horse Creek bed (1,450 feet from mouth of mine, left entry 1 off right entry 3, 87-inch cut).	1077	A	1	1.22	31.53	54.44	12.81	.71	......	......	1.43	......	......	......	......	261	357
			2	......	31.92	55.11	12,97	.72	......	......	1.45	......	......	......	......	*48*	
			3	......	36.68	63.32	......	.83	......	......	1.66	......	......	......	......		
Same (1,250 feet from mouth of mine, room 24 off left entry 2, 86¾-inch cut).	1078	A	1	1.35	31.67	53.35	13.63	.71	......	......	......	......	......	7,217	12,991	261	357
			2	......	32.10	54.08	13.82	.72	......	......	......	......	......	7,316	13,169	*48*	
			3	......	37.25	62.75	......	.84	......	......	......	......	......	8,489	15,280		
Same (over 1-inch screen)......................	1201	C	1	2.34	31.84	53.28	12.54	.72	5.01	71.58	1.65	8.50	.8	7,142	12,856	261	......
			2	......	32.60	54.56	12.84	.74	4.86	73.30	1.69	6.57	......	7,312	13,162	*48*	
			3	......	37.40	62.60	......	.85	5.58	84.09	1.94	7.54	......	8,390	15,102		
ALASKA.																	
ALASKA PENINSULA.																	
Chignik Bay, Alaska Packers' Association mine, cut across clean face.	6953	B	1	7.06	31.48	39.68	21.78	1.30	4.83	55.14	0.61	16.34	5.2	5,470	9,846	......	358
			2	......	33.87	42.69	23.44	1.40	4.36	59.33	.66	10.81	......	5,886	10,595		
			3	......	44.24	55.76	......	1.83	5.70	77.50	.86	14.11	......	7,688	13,838		
Hook Bay mine................................	6952	B	1	5.07	27.24	42.42	25.27	2.26	4.53	55.76	.59	11.59	4.0	......	......	......	358
			2	......	28.69	44.69	26.62	2.38	4.18	58.74	.62	7.46	......	......	......		
			3	......	39.10	60.90	......	3.24	5.70	80.05	.84	10.17	......	......	......		
Thompson Valley, outcrop, upper bed............	6956	B	1	10.77	30.37	43.99	14.87	.70	4.98	55.27	.61	23.57	6.5	5,356	9,641	......	358
			2	......	34.04	49.30	16.66	.78	4.24	61.94	.68	15.70	......	6,002	10,804		
			3	......	40.84	59.16	......	.94	5.09	74.32	.82	18.83	......	7,202	12,964		
Whalers Creek mine, Whalers Creek bed..........	6955	B	1	5.02	34.28	45.45	15.25	1.75	4.87	62.04	.56	15.53	2.5	6,245	11,241	......	359
			2	......	36.09	47.85	16.06	1.84	4.54	65.32	.59	11.65	......	6,574	11,835		
			3	......	42.99	57.01	......	2.19	5.41	77.82	.70	13.88	......	7,833	14,099		
Coal Harbor (Unga Island), Coal Harbor bed..........	6954	B	1	23.27	25.42	25.13	26.18	0.53	5.27	34.76	.52	32.74	12.5	......	......	......	359
			2	......	33.13	32.75	34.12	.69	3.49	45.30	.68	15.72	......	......	......		
			3	......	50.29	49.71	......	1.05	5.30	68.76	1.03	23.86	......	......	......		
Herendeen Bay, Johnson Tunnel, cut across face of clean bed.	6951	B	1	8.01	33.53	51.35	7.11	.41	5.41	66.44	.80	19.83	5.3	6,547	11,785	......	359
			2	......	36.45	55.82	7.73	.45	4.91	72.23	.87	13.81	......	7,117	12,811		
			3	......	39.50	60.50	......	.49	5.32	78.28	.94	14.97	......	7,713	13,883		
Same lower tunnel No. 1......................	6957	B	1	7.48	32.13	48.77	11.62	.31	5.11	63.49	.91	18.56	4.6	6,256	11,261	......	360
			2	......	34.73	52.71	12.56	.34	4.63	68.62	.98	12.87	......	6,761	12,170		
			3	......	39.72	60.28	......	.39	5.29	78.47	1.12	14.73	......	7,732	13,918		
BERING RIVER.																	
Bering Lake, tunnel on shore of; halfway between Poul Point and Dick Creek.	4427	B	1	5.14	13.90	75.96	5.00	1.16	4.50	80.68	1.38	7.28	4.6	7,814	14,065	335	360
			2	......	14.65	80.08	5.27	1.22	4.14	85.05	1.45	2.87	......	8,238	14,828		
			3	......	15.47	84.53	......	1.29	4.37	89.78	1.54	3.02	......	8,695	15,651		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
ALASKA—Continued.																	
BERING RIVER—continued.																	
Canyon Creek, tributary of, prospect; on east side, next below Hunt's cabin (elevation 630 feet, 81-inch cut).	4461	B	1	7.77	7.40	75.59	9.24	0.66	4.07	73.99	1.41	10.63	6.0	6,963	12,569	335	361
			2	......	8.02	81.96	10.02	.72	3.48	80.22	1.53	4.03	......	7,571	13,628		
			3	......	8.91	91.09	......	.80	3.87	89.16	1.70	4.47	......	8,415	15,147		
Same (elevation 520 feet, 31-inch cut)	4433	B	1	7.43	6.86	71.35	14.36	.57	3.71	70.10	1.50	9.76	6.2	6,606	11,891	335	361
			2	......	7.41	77.08	15.51	.62	3.11	75.73	1.62	3.41	......	7,136	12,845		
			3	......	8.77	91.23	......	.73	3.68	89.63	1.92	4.04	......	8,446	15,203		
Carbon Creek, tunnel on south bank of, 11-foot bed	2492	B	1	4.22	13.37	78.80	3.61	1.56	......	......	......	......	3.7	......	......	284	361
			2	......	13.96	82.27	3.77	1.63	......	......	......	......	......	......	......	290	
			3	......	14.51	85.49	......	1.69	......	......	......	......	......	......	......	335	
Carbon Mountain, east side, first opening from west on hillside trail, 10½-foot bed.	2483	B	1	13.89	5.01	73.87	7.23	.82	......	......	......	......	13.2	6,743	12,137	284	361
			2	......	5.82	85.78	8.40	.95	......	......	......	......	......	7,831	14,096	290	
			3	......	6.35	93.65	......	1.04	......	......	......	......	......	8,549	15,388	335	
East side, second opening from west on hillside trail 15+-foot bed.	2480	B	1	8.33	6.36	82.00	3.31	1.11	......	......	......	......	6.1	......	......	284	
			2	......	6.94	89.45	3.61	1.21	......	......	......	......	......	......	......	290	361
			3	......	7.20	92.80	......	1.26	......	......	......	......	......	......	......	335	
East side, 200 feet below hillside trail, lower 4½-foot bed.	2487	B	1	7.26	6.64	75.89	10.21	1.27	......	......	......	......	6.2	......	......	284	361
			2	......	7.16	81.83	11.01	1.37	......	......	......	......	......	......	......	290	
			3	......	8.05	91.95	......	1.54	......	......	......	......	......	......	......	335	
Carbon Mountain, west side, creek opposite mouth of Canyon Creek (elevation 950 feet, 31-inch cut).	4462	B	1	7.64	9.82	76.31	6.23	.57	4.43	77.30	1.45	10.02	5.3	7,255	13,059	284	362
			2	......	10.63	82.62	6.75	.62	3.88	83.69	1.57	3.49	......	7,855	14,139	335	
			3	......	11.40	88.60	......	.66	4.16	89.75	1.68	3.75	......	8,423	15,161	284	
Same (elevation 900 feet, 20-inch cut)	4459	B	1	2.95	6.81	75.74	14.50	1.08	3.69	74.09	1.18	5.46	1.8	7,104	12,787	335	362
			2	......	7.02	78.04	14.94	1.11	3.46	76.34	1.22	2.93	......	7,320	13,176		
			3	......	8.25	91.75	......	1.31	4.07	89.75	1.43	3.44	......	8,606	15,491		
West side, near crest of trail, between Hunt's and Green's trails (50 feet above 2479, 5½-foot bed).	2481	B	1	7.94	9.20	78.53	4.33	.79	......	......	......	......	5.0	......	......	284	362
			2	......	9.99	85.31	4.70	.86	......	......	......	......	......	......	......	290	
			3	......	10.48	89.52	......	.90	......	......	......	......	......	......	......	335	
Same (50 feet below 2481, 37-inch bed, 34-inch cut).	2479	B	1	4.43	10.14	80.78	4.65	.51	......	......	......	......	1.5	7,578	13,640	284	362
			2	......	10.61	84.52	4.87	.53	......	......	......	......	......	7,929	14,274	290	
			3	......	11.15	88.85	......	.56	......	......	......	......	......	8,336	15,005	335	
West side, north end of Hunt's hillside trail, 15-foot bed.	2496	B	1	5.93	6.76	81.47	5.84	.82	......	......	......	......	5.2	......	......	284	363
			2	......	7.19	86.60	6.21	.87	......	......	......	......	......	......	......	290	
			3	......	7.67	92.33	......	.93	......	......	......	......	......	......	......	335	

South end of hillside trail, 10-foot bed	2482	B	1	8.31	7.12	82.43	2.14	1.05					7.0			335	363
			2		7.77	89.90	2.33	1.15									
			3		7.96	92.04		1.18									
Clear Creek, opening on east bank of; 3 miles above the mouth, 4-foot cut.	4451	B	1	3.69	13.17	77.10	6.04	3.08	4.20	79.99	1.44	5.25	2.4	7,751	13,952	335	363
			2		13.67	80.06	6.27	3.20	3.94	83.05	1.50	2.04		8,048	14,486		
			3		14.58	85.42		3.41	4.20	88.61	1.60	2.18		8,587	15,457		
Tunnel at base of falls, 60-inch cut	4435	B	1	4.19	8.71	84.60	2.50	1.42	4.35	84.01	1.45	6.27	3.3	8,091	14,564	335	363
			2		9.09	88.30	2.61	1.48	4.05	87.68	1.51	2.67		8,445	15,201		
			3		9.33	90.67		1.52	4.16	90.03	1.55	2.74		8,671	15,608		
Tunnel on north bank, above the falls; 18-foot cut	4431	B	1	5.71	8.75	80.89	4.65	1.22	4.28	81.55	1.26	7.04	5.0	7,881	14,186	335	363
			2		9.28	85.79	4.93	1.29	3.87	86.49	1.34	2.08		8,359	15,046		
			3		9.76	90.24		1.36	4.07	90.98	1.41	2.18		8,792	15,826		
Tributary of; heading southeast of Monument Mountain, (elevation 1,450 feet).	4460	B	1	6.59	9.21	71.53	12.67	.60	4.30	72.45	1.30	8.68	5.5	6,860	12,348	335	364
			2		9.86	76.58	13.56	.64	3.82	77.56	1.39	3.03		7,344	13,219		
			3		11.41	88.59		.74	4.42	89.73	1.61	3.50		8,496	15,293		
Same (elevation 1,200 feet)	4430	B	1	5.89	10.86	78.41	4.84	2.50	4.31	78.19	1.33	8.83	4.8	7,539	13,570	335	364
			2		11.54	83.32	5.14	2.66	3.89	83.08	1.41	3.82		8,011	14,420		
			3		12.17	87.83		2.80	4.10	87.59	1.49	4.02		8,445	15,201		
Falls Creek, cliffs on, 1 mile north of Bering Lake, Christopher prospect (10-foot bed, 7-foot cut).	2488	B	1	6.03	12.98	78.40	2.59	.70					5.20			290	365
			2		13.81	83.42	2.77	.74								335	
			3		14.20	85.80		.76									
Tributary of; half mile northeast of Christopher's cabin, 31-inch cut.	4454	B	1	5.51	12.85	64.34	17.30	2.83	4.00	66.05	.96	8.86	3.9	6,513	11,723	335	365
			2		13.60	68.09	18.31	2.99	3.59	69.90	1.02	4.19		6,893	12,407		
			3		16.65	83.35		3.67	4.39	85.57	1.24	5.13		8,438	15,188		
Fourth Berg Lake, 1¾ miles above, 34-inch bed	2478	B	1	7.67	5.78	66.03	20.52	2.90					4.7			284	365
			2		6.26	71.51	22.23	3.14								290	
			3		8.05	91.95		4.04									
Kushtaka Ridge, opening on east side of (1 mile northwest of cabin, 3-foot cut).	4455	B	1	5.43	13.12	79.65	1.80	.67	4.55	83.26	1.42	8.30	3.8	8,025	14,445	335	366
			2		13.87	84.23	1.90	.71	4.18	88.04	1.50	3.67		8,486	15,275		
			3		14.13	85.87		.72	4.26	89.75	1.53	3.74		8,650	15,570		
Same (1½ miles northwest of cabin, 14-foot cut).	4428	B	1	9.37	12.99	74.02	3.62	.63	4.87	77.19	1.22	12.47	8.0	7,424	13,363	335	366
			2		14.33	81.68	3.99	.70	4.23	85.17	1.35	4.56		8,192	14,746		
			3		14.92	85.08		.73	4.41	88.71	1.41	4.74		8,532	15,358		
Tunnel on east face of; 790 feet above Lake Kushtaka, 14½-foot bed (sample 1).	2497	B	1	2.68	11.06	73.31	12.95	5.27					1.9			290	366
			2		11.36	75.33	13.31	5.41								335	
			3		13.10	86.90		6.24									
Same (sample 2)	4463	B	1	2.92	10.74	71.32	15.02	4.14	3.68	70.10	1.09	5.97	1.3	6,859	12,346	335	366
			2		11.06	73.47	15.47	4.26	3.46	72.21	1.12	3.48		7,065	12,717		
			3		13.08	86.92		5.05	4.09	85.42	1.32	4.12		8,358	15,044		
Leeper Creek, section on; one-third mile above mouth, 8 to 11 foot cut.	4453	B	1	4.01	12.46	77.47	6.06	1.11	4.35	79.87	1.34	7.27	3.2	7,873	14,171	335	367
			2		12.98	80.71	6.31	1.16	4.06	83.21	1.40	3.86		8,202	14,764		
			3		13.85	86.15		1.23	4.35	88.82	1.49	4.11		8,756	15,761		
Mount Hamilton, on gulch two-fifths mile southwest of: (lower bed, lower bench).	4436	B	1	6.12	11.72	51.11	31.05	5.25	3.62	51.23	.96	7.89	4.2	5,038	9,068	335	367
			2		12.48	54.45	33.07	5.59	3.13	54.57	1.02	2.62		5,366	9,659		
			3		18.65	81.35		8.36	4.68	81.54	1.53	3.89		8,018	14,432		
Same (lower bed, upper bench)	4452	B	1	5.71	13.04	47.10	34.15	6.47	3.34	46.97	.81	8.26	2.7	4,659	8,386	335	367
			2		13.83	49.95	36.22	6.86	2.87	49.82	.86	3.37		4,941	8,894		
			3		21.68	78.32		10.76	4.51	78.10	1.35	5.28		7,747	13,945		
Same (upper bed)	4437	B	1	7.74	15.57	67.83	8.86	.84	4.55	70.86	1.19	13.70	5.2	6,969	12,544	335	367
			2		16.88	73.52	9.60	.91	4.00	76.82	1.29	7.38		7,554	13,597		
			3		18.67	81.33		1.01	4.42	84.97	1.43	8.17		8,357	15,043		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
ALASKA—Continued.																	
BERING RIVER—continued.																	
Nevada Creek, tunnel near mouth of; 19-foot 7-inch bed.	2491	B	1	5.95	13.01	76.12	4.92	0.61	....	....	....	....	5.4	....	....	335	367
			2	....	13.83	80.94	5.23	.64	....	....	....	....	....	....	....		
			3	....	14.59	85.41	....	.69	....	....	....	....	....	....	....		
Powers Creek, tunnel on; 1 mile north of Bering Lake, 12-foot bed, 102-inch cut.	2493	B	1	5.84	11.74	60.21	22.21	3.36	....	....	....	....	5.1	....	....	335	368
			2	....	12.47	63.94	23.59	3.57	....	....	....	....	....	....	....		
			3	....	16.32	83.68	....	4.67	....	....	....	....	....	....	....		
Queen Creek, opening near (upper 27-foot bed).........	2486	B	1	4.23	14.03	79.75	1.99	.96	....	....	....	....	3.0	....	....	335	368
			2	....	14.65	83.27	2.08	1.00	....	....	....	....	....	....	....		
			3	....	14.96	85.04	....	1.02	....	....	....	....	....	....	....		
Same (lower 31-foot bed)......................	2495	B	1	5.66	13.65	76.81	3.88	.77	....	....	....	....	4.6	....	....	335	368
			2	....	14.47	81.42	4.11	.82	....	....	....	....	....	....	....		
			3	....	15.09	84.91	....	.86	....	....	....	....	....	....	....		
Southwest of; opening on south branch, 17-foot cut.	2494	B	1	4.94	13.34	77.29	4.43	.83	....	....	....	....	3.9	....	....	335	369
			2	....	14.03	81.31	4.66	.87	....	....	....	....	....	....	....		
			3	....	14.72	85.28	....	.91	....	....	....	....	....	....	....		
Second Berg Lake, gulch at head of; 2¾-foot bed.......	2485	B	1	3.74	5.41	85.92	4.93	1.10	....	....	....	....	1.9	....	....	335	369
			2	....	5.62	89.26	5.12	1.14	....	....	....	....	....	....	....		
			3	....	5.92	94.08	....	1.20	....	....	....	....	....	....	....		
Tokun Creek, lower tunnel on; 6¾-foot bed, 80-inch cut.	2490	B	1	4.35	11.97	73.34	10.34	1.13	....	....	....	....	3.7	....	....	335	369
			2	....	12.51	76.68	10.81	1.18	....	....	....	....	....	....	....		
			3	....	14.03	85.97	....	1.32	....	....	....	....	....	....	....		
Trout Creek, Cunningham's upper tunnel, opposite house, 8-foot bed.	2489	B	1	2.11	16.58	79.68	1.63	.78	....	....	....	....	1.3	....	....	284	370
			2	....	16.94	81.39	1.67	.80	....	....	....	....	....	....	....	335	
			3	....	17.23	82.77	....	.81	....	....	....	....	....	....	....		
Tunnel, one-fourth mile below house, 33-foot bed..	2484	B	1	6.34	14.29	69.55	9.82	.64	....	....	....	....	5.4	....	....	284	370
			2	....	15.26	74.26	10.48	.68	....	....	....	....	....	....	....	335	
			3	....	17.04	82.96	....	.76	....	....	....	....	....	....	....		
COOK INLET.																	
Kachemak Bay, north shore of (3 miles east of Homer Spit).	4457	B	1	18.12	42.77	23.61	15.50	.43	5.51	44.77	0.88	32.91	7.0	4,386	7,895	379	370
			2	....	52.23	28.84	18.93	.53	4.27	54.67	1.07	20.53	....	5,357	9,643		
			3	....	64.44	35.56	1.65	.65	5.27	67.45	1.33	25.30	....	6,608	11,894		
Same (1 mile west of Homer Spit, 6-foot bed)..	4429	B	1	18.59	36.13	34.92	10.36	.34	5.81	49.08	1.14	33.27	9.4	4,749	8,548	379	370
			2	....	44.38	42.89	12.73	.42	4.59	60.29	1.40	20.57	....	5,834	10,501		
			3	....	50.86	49.14	....	.48	5.28	69.08	1.60	23.56	....	6,684	12,031		

North shore of; several miles southeast of Anchor Point, three-fourth mile west of Diamond Creek).	4426	B	1	28.06	33.51	32.81	5.62	.19	6.45	45.61	.85	41.28	19.4	4,340	7,812	379	370
			2	....	46.58	45.61	7.81	.26	4.63	63.40	1.18	22.72	....	6,033	10,859		
			3	....	50.53	49.47	....	.28	5.02	68.77	1.28	24.65	....	6,544	11,779		
Same (1½ miles east of Troublesome Gulch)....	4432	B	1	19.95	35.88	29.18	14.99	.41	5.82	44.55	.97	33.26	7.5	4,474	8,053	379	370
			2	....	44.82	36.45	18.73	.51	4.50	55.65	1.21	19.40	....	5,589	10,060		
			3	....	55.15	44.85	....	.63	5.53	68.47	1.49	23.88	....	6,877	12,379		
Port Graham, north shore of........................	4458	B	1	19.96	38.73	32.46	8.85	.52	5.81	49.53	.92	34.37	8.2	4,885	8,793	379	371
			2	....	48.39	40.55	11.06	.65	4.49	61.88	1.15	20 77	....	6,103	10,985		
			3	....	54.41	45.59	....	.73	5.04	69.57	1.29	23.37	....	6,862	12,352		
Tyonek, about 4 miles south of; on west shore of Cook Inlet (near south end of Tyonek beach).	4465	B	1	22.31	40.50	27.97	9.22	.30	6.20	44.23	.83	39.22	13.0	4,325	7,785	379	371
			2	....	52.13	36.00	11.87	.39	4.79	56.93	1.07	24.95	....	5,567	10,021		
			3	....	59.16	40.84	....	.44	5.44	64.60	1.21	28.31	....	6,317	11,371		
Same (loose lignite pebbles from a conglomerate).	4425	B	1	27.60	31.47	37.18	3.75	.40	6.54	47.98	.86	40.47	20.8	4,638	8,348	379	371
			2	....	43.47	51.35	5.18	.55	4.79	66.27	1.19	22.02	....	6,406	11,531		
			3	....	45.84	54.16	....	.58	5.07	69.89	1.25	23.21	....	6,756	12,161		
3 miles south of; first outcrop, west shore of Cook Inlet.	4464	B	1	20.68	41.80	29.12	8.40	.32	6.12	45.70	.77	38.69	9.6	4,440	7,992	379	371
			2	....	52.70	36.71	10.59	.40	4.82	57.61	.97	25.61	....	5,598	10,076		
			3	....	58.93	41.07	....	.45	5.39	64.43	1.08	28.65	....	6,261	11,270		
Northwest of; on Beluga River, above canyon and rapids (10 miles up).	4434	B	1	19.45	34.36	29.81	16.38	.22	5.49	44.72	.79	32.40	8.6	4,428	7,990	379	371
			2	....	42.66	37.00	20.34	.27	4.13	55.52	.98	18.76	....	5,497	9,895		
			3	....	53.55	46.45	....	.34	5.19	69.69	1.23	23.55	....	6,901	12,422		
Same (10½ miles up)...........................	4456	B	1	17.44	38.25	28.89	15.42	1.63	5.61	45.25	1.15	30.94	6.4	4,581	8,246	379	371
			2	....	46.33	34.99	18.68	1.97	4.45	54.81	1.39	18.70	....	5,549	9,988		
			3	....	56.97	43.03	....	2.42	5.47	67.40	1.71	23.00	....	6,823	12,281		
MATANUSKA.																	
Boulder and Hicks Creeks, between; north side Matanuska Valley, 18± miles from Chickaloon Creek, 38-foot bed.	2222	B	1	2.55	7.08	84.32	6.05	.57	....	....	....	....	....	7,617	13,711	289	372
			2	....	7.27	86.52	6.21	.58	....	....	....	....	....	7,817	14,071	290	
			3	....	7.75	92.25	....	.62	....	....	....	....	....	8,335	15,003	327	
Chickaloon Creek, Watson's Tunnel No. 2, 15-foot 1-inch bed, 12-foot cut.	2215	B	1	2.58	19.14	67.46	10.82	.57	....	....	....	....	1.6	....	....	289	372
			2	....	19.65	69.24	11.11	.59	....	....	....	....	....	....	....	290	
			3	....	22.10	77.90	....	.66	....	....	....	....	....	....	....	327	
Watson's Tunnel No. 2 (selected), 5.2-foot bed.....	2227	B	1	.90	19.60	74.60	4.90	.60	....	....	....	....	....	8,260	14,868	289	372
			2	....	19.78	75.28	4.94	.61	....	....	....	....	....	8,335	15,003	290	
			3	....	20.81	79.19	....	.64	....	....	....	....	....	8,768	15,782	327	
Watson's Tunnel No. 3, 9½-foot bed, 7-foot cut.....	2216	B	1	2.46	17.01	53.23	27.30	.84	....	....	....	....	1.0	....	....	289	373
			2	....	17.44	54.57	27.99	.86	....	....	....	....	....	....	....	290	
			3	....	24.22	75.78'	....	1.19	....	....	....	....	....	....	....	327	
Watson's Tunnel No. 5, 10-foot 10-inch bed, 94-inch cut.	2220	B	1	2.90	17.47	56.15	23.48	.46	....	....	....	....	1.9	....	....	289	373
			2	....	17.99	57.83	24.18	.47	....	....	....	....	....	....	....	290	
			3	....	23.73	76.27	....	.62	....	....	....	....	....	....	....	327	
3 miles above; on south side of Matanuska River, 7-foot 7-inch bed, 7-foot cut.	2214	B	1	4.36	18.92	61.19	15.53	.37	....	....	....	....	1.6	....	....	289	374
			2	....	19.78	63.98	16.24	.39	....	....	....	....	....	....	....	290	
			3	....	23.62	76.38	....	.47	....	....	....	....	....	....	....	327	
Coal Creek, ¾ mile above mouth, 5-foot bed...........	2217	B	1	2.24	23.08	70.21	4.47	.50	....	....	....	....	.8	....	....	289	374
			2	....	23.61	71.82	4.57	.51	....	....	....	....	....	....	....	290	
			3	....	24.74	75.26	....	.53	....	....	....	....	....	....	....	327	
⅜ mile above mouth, 8.6-foot bed..................	2219	B	1	6.74	14.96	65.83	12.47	.44	....	....	....	....	4.1	6,649	11,968	289	374
			2	....	16.04	70.59	13.37	.47	....	....	....	....	....	7,130	12,834	290	
			3	....	18.51	81.49	....	.54	....	....	....	....	....	8,230	14,814	327	

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
ALASKA—Continued.																	
MATANUSKA—continued.																	
Eska Creek, west bank, 3 miles above trail, 2.7-foot cut.	2226	B	1	5.56	36.52	51.32	6.60	0.42	......	......	......	......	......	......	......	289	375
			2	......	38.67	54.34	6.99	.44	......	......	......	......	......	......	......	290	
			3	......	41.58	58.42	......	.47	......	......	......	......	......	......	......	327	
3 miles above trail, 3.3-foot bed	2224	B	1	6.60	34.30	48.23	10.87	.41	......	......	......	......	......	6,299	11,338	289	375
			2	......	36.73	51.63	11.64	.44	......	......	......	......	......	6,744	12,139	290	
			3	......	41.57	58.43	......	.50	......	......	......	......	......	7,632	13,738	327	
Kings Creek, west bank, at upper bridge, 9-foot 11-inch bed, 69-inch cut.	2218	B	1	2.93	21.85	63.09	12.13	.59	......	......	......	......	1.8	7,419	13,354	289	375
			2	......	22.51	64.99	12.50	.61	......	......	......	......	......	7,643	13,757	290	
			3	......	25.73	74.27	......	.70	......	......	......	......	......	8,735	15,723	327	
Matanuska Valley, anthracite ridge, 4½-foot bed, 10-inch cut.	4754	A	1	2.18	30.60	58.06	9.16	.70	4.83	71.43	1.50	12.38	......	7,303	13,145	......	375
			2	......	31.28	59.36	9.36	.72	4.69	73.02	1.53	10.68	......	7,466	13,439		
			3	......	34.51	65.49	......	.79	5.17	80.56	1.69	11.79	......	8,237	14,827		
Moose Creek, 4 miles above trail, 66-inch cut	2225	B	1	4.03	34.84	49.31	11.82	.38	......	......	......	......	......	......	......	289	376
			2	......	36.30	51.38	12.32	.40	......	......	......	......	......	......	......	290	
			3	......	41.40	58.60	......	.46	......	......	......	......	......	......	......	327	
4½ miles above trail, 12¾-foot bed, 138-inch cut	2221	B	1	10.05	36.05	48.90	5.00	.25	......	......	......	......	4.6	......	......	289	376
			2	......	40.08	54.36	5.56	.28	......	......	......	......	......	......	......	290	
			3	......	42.44	57.56	......	.30	......	......	......	......	......	......	......	327	
Young Creek, west bank, 3 miles above trail, 1½-foot cut	2223	B	1	2.50	28.32	58.82	10.36	.58	......	......	......	......	......	7,274	13,093	289	377
			2	......	29.04	60.33	10.63	.59	......	......	......	......	......	7,461	13,430	290	
			3	......	32.49	67.51	......	.66	......	......	......	......	......	8,348	15,026	327	
SEWARD PENINSULA.																	
Chicago Creek, tributary of Kujruk River, latitude 55° 55′ N., longitude 162° 25′ W., Chicago Creek mine, cross cut on lowest level (0 to 12 feet from hanging wall).	6944	B	1	37.82	26.14	32.16	3.88	.65	6.12	41.79	.67	45.89	34.1	......	......	379	377
			2	......	42.04	51.72	6.24	1.05	4.70	67.21	1.08	19.72	......	......	......		
			3	......	44.84	55.16	......	1.12	5.01	71.69	1.15	21.03	......	......	......		
Same (12 to 24 feet from hanging wall)	6942	B	1	42.45	24.67	29.56	3.32	.48	7.35	38.64	.63	49.58	37.8	......	......	379	377
			2	......	42.87	51.36	5.77	.83	4.57	67.14	1.09	20.60	......	......	......		
			3	......	45.49	54.51	......	.88	4.85	71.25	1.16	21.86	......	......	......		
Same (24 to 36 feet from hanging wall)	6946	B	1	39.66	25.38	31.07	3.89	.68	7.26	39.96	.61	47.60	34.7	......	......	379	377
			2	......	42.06	51.49	6.45	1.13	4.72	66.22	1.01	20.47	......	......	......		
			3	......	44.96	55.04	......	1.21	5.05	70.78	1.08	21.88	......	......	......		

Same (36 to 48 feet from hanging wall).........	6941	B	1	38.53	25.28	32.20	3.99	.72	6.99	40.47	.70	47.13	33.5	......	......	379	377
			2	......	41.13	52.38	6.49	1.17	4.41	65.84	1.14	20.95	......	......	......		
			3	......	43.98	56.02	......	1.25	4.72	70.41	1.22	22.40	......	......	......		
Same (48 to 60 feet from hanging wall).........	6943	B	1	40.13	23.81	30.51	5.55	.56	7.02	40.64	.66	45.57	36.8	......	......	379	377
			2	......	39.77	50.96	9.27	.94	4.28	67.88	1.10	16.53	......	......	......		
			3	......	43.83	56.17	......	1.04	4.71	74.82	1.21	18.22	......	......	......		
Same (60 to 72 feet from hanging wall).........	6940	B	1	38.31	24.41	30.20	7.08	.90	6.78	37.86	.66	46.72	33.7	......	......	379	377
			2	......	39.57	48.95	11.48	1.46	4.08	61.37	1.07	20.54	......	......	......		
			3	......	44.70	55.30	......	1.65	4.61	69.33	1.21	23.20	......	......	......		
Same (72 to 84 feet from hanging wall).........	6947	B	1	32.34	21.60	24.61	21.45	.89	5.83	31.11	.49	40.23	28.3	......	......	379	377
			2	......	31.92	36.38	31.70	1.32	3.31	45.98	.72	16.97	......	......	......		
			3	......	46.73	53.27	......	1.93	4.85	67.32	1.05	24.85	......	......	......		
Same (84 to 96 feet from hanging wall).........	6948	B	1	34.42	23.92	27.80	13.86	1.38	6.41	35.46	.63	42.26	30.3	......	......	379	377
			2	......	36.47	42.39	21.14	2.10	3.95	54.07	.96	17.78	......	......	......		
			3	......	46.25	53.75	......	2.66	5.01	68.56	1.22	22.55	......	......	......		
Same (96 to 104 feet from hanging wall, to the foot wall).	6945	B	1	35.90	22.02	25.32	16.76	.96	6.28	32.51	.57	42.92	33.1	......	......	379	377
			2	......	34.35	39.50	26.15	1.50	3.57	50.72	.89	17.17	......	......	......		
			3	......	46.51	53.49	......	2.03	4.83	68.68	1.21	23.25	......	......	......		
SOUTHEASTERN ALASKA (ADMIRALTY ISLAND).																	
Murder Cove..	5796	B	1	5.68	30.26	46.95	17.11	.26	......	......	......	......	2.6	6,224	11,203	......	378
			2	......	32.08	49.78	18.14	.28	......	......	......	......	......	6,599	11,878		
			3	......	39.19	60.81	......	.34	......	......	......	......	......	8,061	14,510		
YUKON RIVER.																	
Charley Creek, near Copper Creek, Jim Henderson claim, No. 2 bed.	5794	A	1	2.10	20.81	53.99	23.10	.62	......	......	......	......	.6	6,239	11,230	......	378
			2	......	21.26	55.14	23.60	.63	......	......	......	......	......	6,373	11,471		
			3	......	27.83	72.17	......	.82	......	......	......	......	......	8,342	15,016		
Williams Creek, 6 miles out from Eagle, No. 3 bed.....	5795	A	1	19.75	33.13	22.72	24.40	.17	......	......	......	......	5.8	3,481	6,266	......	378
			2	......	41.28	28.32	30.40	.21	......	......	......	......	......	4,328	7,808		
			3	......	59.31	40.69	......	.30	......	......	......	......	......	6,218	11,192		
ARIZONA.																	
COCONINO COUNTY.																	
Tuba 14 miles southeast of; Tuba Indian School mine, drift 100 feet from mouth of mine, 4½-foot bed.	8122	B	1	9.15	33.27	43.86	13.72	1.28	......	......	......	......	1.5	5,827	10,489	431	378
			2	......	36.62	48.28	15.10	1.41	......	......	......	......	......	6,414	11,545		
			3	......	43.13	56.87	......	1.66	......	......	......	......	......	7,555	13,599		
NAVAJO COUNTY.																	
Oraibi, 3 miles east of; Oraibi Indian School mine, entry 50 feet from mouth of mine, two lower benches, 56½-inch bed.	8123	B	1	9.88	32.64	46.86	10.62	1.12	5.42	62.00	1.13	19.71	2.0	6,000	10,800	431	379
			2	......	36.22	52.00	11.78	1.24	4.79	68.80	1.25	12.14	......	6,658	11,984		
			3	......	41.06	58.94	......	1.41	5.43	77.98	1.42	13.76	......	7,547	13,585		
ARKANSAS.																	
FRANKLIN COUNTY.																	
Altus, 2 miles west of; sec. 17, T. 9 N., R. 26 W., Garritz mine, center cross entry, lower bench of 25-inch bed in Hartshorn horizon.	3371	B	1	3.77	13.96	79.35	2.92	.74	......	......	......	......	2.8	......	......	316	379
			2	......	14.51	82.46	3.03	.77	......	......	......	......	......	......	......	326	
			3	......	14.96	85.04	......	.79	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
ARKANSAS—Continued.																	
FRANKLIN COUNTY—continued.																	
Denning, sec. 22, T. 9 N., R. 26 W., represents 3 cars (100 tons) of uninspected slack.	3798	C	1	2.91	12.65	66.93	17.51	3.12	3.60	70.88	1.17	3.72	1.7	6,840	12,312	332	......
			2	......	13.03	68.93	18.04	3.21	3.38	73.01	1.21	1.15	......	7,045	12,680		
			3	......	15.90	84.10	......	3.92	4.12	89.08	1.48	1.40	......	8,596	15,473		
Sec. 22, T. 9 N., R. 26 W., No. 2 mine, Denning bed (43-inch cut).	1040	B	1	.85	14.45	76.41	8.29	2.05	......	......	......	......	......	......	......	326	379
			2	......	14.57	77.07	8.36	2.07	......	......	......	......	......	......	......		
			3	......	15.90	84.10	......	2.26	......	......	......	......	......	......	......		
Same (51-inch cut)	1042	B	1	.84	16.46	75.32	7.38	1.91	......	......	......	......	......	8,136	14,645	326	379
			2	......	16.60	75.96	7.44	1.93	......	......	......	......	......	8,205	14,769		
			3	......	17.93	82.07	......	2.09	......	......	......	......	......	8,865	15,957		
JOHNSON COUNTY.																	
Clarksville, 2 miles south of; sec. 17, T. 9 N., R. 23 W., Brooks mine, Spadra bed (32-inch cut).	3369	B	1	1.72	10.46	79.50	8.32	2.49	......	......	......	......	.7	7,704	13,867	316	380
			2	......	10.64	80.89	8.47	2.53	......	......	......	......	......	7,839	14,110	326	
			3	......	11.62	88.38	......	2.76	......	......	......	......	......	8,564	15,415		
Coal Hill, 1½ miles west of; No. 4 mine, Denning bed, 3¼-foot cut (room 45, off east slope, entry 3).	1130	A	1	1.38	14.76	76.91	6.95	1.52	......	......	1.40	......	.7	7,961	14,330	261	380
			2	......	14.97	77.98	7.05	1.54	......	......	1.42	......	......	8,072	14,530	316	
			3	......	16.11	83.89	......	1.66	......	......	1.53	......	......	8,684	15,631	326 *48*	
Same (room 38, east plane, entry 2)	1131	A	1	1.80	15.00	75.94	7.26	1.94	......	......	......	......	1.3	......	......	326	380
			2	......	15.27	77.34	7.39	1.98	......	......	......	......	......	......	......	*48*	
			3	......	16.49	83.51	......	2.14	......	......	......	......	......	......	......		
Same (run of mine, 40 tons)	1331	C	1	2.36	12.68	72.88	12.08	1.99	3.82	76.44	1.37	4.30	1.1	7,366	13,259	261	......
			2	......	12.99	74.64	12.37	2.04	3.65	78.29	1.40	2.25	......	7,545	13,580	326	
			3	......	14.82	85.18	......	2.33	4.16	89.34	1.60	2.57	......	8,609	15,496	*48*	
			4	......	......	......	......	......	4.26	91.47	1.64	2.63	......	8,760	15,768		
2½ miles southwest of; Denning bed (3½-foot bed)	3370	B	1	3.41	12.10	78.41	6.08	4.05	......	......	......	......	2.4	......	......	316	381
			2	......	12.52	81.19	6.29	4.19	......	......	......	......	......	......	......	326	
			3	......	13.36	86.64	......	4.47	......	......	......	......	......	......	......		
Spadra, Consolidated Anthracite No. 1 mine, Spadra bed (1,300 feet northeast of shaft, east entry 6, 32-inch cut).	2587	A	1	3.12	11.39	77.03	8.46	1.84	......	......	......	......	2.5	7,607	13,793	332	381
			2	......	11.76	79.51	8.73	1.90	......	......	......	......	......	7,852	14,134		
			3	......	12.88	87.12	......	2.08	......	......	......	......	......	8,603	15,485		
Same (1,650 feet northwest of shaft, west entry 8, 33-inch cut).	2588	A	1	2.72	11.20	77.71	8.37	2.78	......	......	......	......	2.1	......	......	332	381
			2	......	11.51	79.89	8.60	2.86	......	......	......	......	......	......	......		
			3	......	12.59	87.41	......	3.13	......	......	......	......	......	......	......		

Same (over 1¼-inch perforated screen)..........	2744	C	1	5.19	10.49	70.31	14.01	2.05	3.78	72.43	.51	7.22	4.4	6,922	12,460	332	......
			2	......	11.06	74.16	14.78	2.16	3.38	76.39	.54	2.75	......	7,301	13,142		
			3	......	12.98	87.02	......	2.53	3.97	89.64	.63	3.23	......	8,567	15,421		
Near; SW. ¼ sec. 14, T. 9 N., R. 24 W., Eureka mine (Spadra bed, 44-inch).	3368	B	1	2.11	11.42	77.83	8.64	1.99	......	......	......	......	1.0	7,619	13,714	316	382
			2	......	11.67	79.50	8.83	2.03	......	......	......	......	......	7,784	14,011	326	
			3	......	12.80	87.20	......	2.23	......	......	......	......	......	8,537	15,367		
Sec. 23, T. 9 N., R. 24 W., Needmore mine (Spadra bed, 41-inch).	3407	B	1	2.15	10.82	76.87	10.16	2.30	......	......	......	......	1.4	......	......	316	382
			2	......	11.05	78.56	10.39	2.35	......	......	......	......	......	......	......	326	
			3	......	12.34	87.66	......	2.62	......	......	......	......	......	......	......		
LOGAN COUNTY.																	
Paris, sec. 10, T. 7 N., R. 26 W., Paris mine, Paris bed, 26-inch cut.	3174	B	1	2.77	14.69	73.47	9.07	2.79	4.02	78.71	1.46	3.95	2.2	7,652	13,774	316	383
			2	......	15.11	75.56	9.33	2.87	3.82	80.95	1.50	1.53	......	7,870	14,167	326	
			3	......	16.66	83.34	......	3.16	4.21	89.28	1.66	1.69	......	8,680	15,624		
			4	......	......	......	......	......	4.35	92.21	1.71	1.73	......	8,890	16,002		
OUACHITA COUNTY.																	
Lester, 7 miles west of; Lester No. 2 mine, 300 feet from drift mouth (left entry 2, 6½-foot cut).	2647	A	1	39.50	25.35	22.57	12.58	.53	......	......	......	......	32.6	3,265	5,877	332	383
			2	......	41.90	37.31	20.79	.88	......	......	......	......	......	5,397	9,714		
			3	......	52.90	47.10	......	1.11	......	......	......	......	......	6,813	12,266		
Same (air course, 5-foot bed)................	2648	A	1	41.25	27.96	22.98	7.81	.50	......	......	......	......	35.7	......	......	332	383
			2	......	47.59	39.12	13.29	.85	......	......	......	......	......	......	......		
			3	......	54.89	45.11	......	.98	......	......	......	......	......	......	......		
Same (run of mine)........................	2726	C	1	39.43	26.49	24.37	9.71	.49	6.98	36.33	.68	45.81	25.1	3,531	6,356	332	......
			2	......	43.73	40.24	16.03	.81	4.29	59.98	1.12	17.77	......	5,830	10,494		
			3	......	52.08	47.92	......	.96	5.11	71.43	1.33	21.17	......	6,943	12,497		
POPE COUNTY.																	
Russellville, sec. 22, T. 7 N., R. 20 W., Russelville mine, Shinn Basin bed.[a]	3177	B	1	2.33	10.60	77.67	9.40	1.81	......	......	......	......	1.6	......	......	316	384
			2	......	10.85	79.53	9.62	1.85	......	......	......	......	......	......	......	326	
			3	......	12.00	88.00	......	2.05	......	......	......	......	......	......	......		
Sec. 21, T. 7 N., R. 20 W., Southern mine, Shinn Basin bed.[a]	3176	B	1	2.07	9.81	78.82	9.30	1.74	3.62	80.28	1.47	3.59	1.4	7,612	13,702	316	384
			2	......	10.02	80.48	9.50	1.78	3.46	81.97	1.50	1.79	......	7,773	13,991	326	
			3	......	11.07	88.93	......	1.96	3.82	90.58	1.66	1.98	......	8,589	15,460	......	
			4	......	......	......	......	......	3.90	92.39	1.69	2.02	......	8,716	15,689	......	
SCOTT COUNTY.																	
Bates, NE. ¼ NW. ¼, sec. 21, T. 3 N., R. 32 W., Seymour mine, Hartshorne bed (3 upper benches, 99-inch cut).	3503	B	1	6.85	25.75	43.40	24.00	2.32	......	......	......	......	5.9	......	......	326	384
			2	......	27.64	46.60	25.76	2.49	......	......	......	......	......	......	......		
			3	......	37.23	62.77	......	3.34	......	......	......	......	......	......	......		
Same (lower bench, 4-foot cut)..............	3505	B	1	3.37	24.44	66.40	5.79	.87	......	......	......	......	2.5	......	......	316	384
			2	......	25.29	68.73	5.98	.90	......	......	......	......	......	......	......	326	
			3	......	26.90	73.10	......	.96	......	......	......	......	......	......	......		
SEBASTIAN COUNTY.																	
Auburn, a few miles north of; sec. 20, T. 7 N., R. 29 W., Coal Ridge mine, Charleston bed (Sky or Coal Ridge vein), 18-inch cut, weathered.	3218	B	1	3.80	15.96	75.86	4.38	2.21	......	......	......	......	2.6	......	......	316	385
			2	......	16.59	78.86	4.55	2.30	......	......	......	......	......	......	......	326	
			3	......	17.38	82.62	......	2.41	......	......	......	......	......	......	......		
Bonanza, No. 26 mine, Hartshorne bed (1,400 feet southeast of shaft, main east entry, 36-inch cut).	2599	A	1	1.99	15.90	75.05	7.06	1.05	......	......	......	......	1.7	7,826	14,087	332	385
			2	......	16.22	76.58	7.20	1.07	......	......	......	......	......	7,985	14,373	326	
			3	......	17.48	82.52	......	1.15	......	......	......	......	......	8,605	15,489	336	

[a] Varies in thickness from 30 to 36 inches.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
ARKANSAS—Continued.																	
SEBASTIAN COUNTY—continued.																	
Bonanza, No. 26 mine—Continued.																	
Same (1,100 feet west of shaft, room 16, main west entry, 35-inch cut).	2600	A	1	2.12	16.17	75.01	6.70	1.78	......	......	......	......	1.8	......	......	332	385
			2	......	16.52	76.64	6.84	1.82	......	......	......	......	......	......	......	326	
			3	......	17.73	82.27	......	1.95	......	......	......	......	......	......	......	336	
Same (run of mine)	2690	C	1	5.26	14.71	55.22	24.81	1.00	3.91	59.87	1.23	9.18	4.2	5,806	10,451	332	......
			2	......	15.53	58.28	26.19	1.06	3.51	63.19	1.30	4.75	......	6,128	11,030		
			3	......	21.04	78.96	......	1.43	4.76	85.61	1.76	6.44	......	8,303	14,945		
			4	......	......	......	......	......	4.83	86.86	1.78	6.53	......	8,389	15,100		
No. 12 mine, 1 mile east of; Hartshorne bed (west entry 7, 41½-inch cut).	1049	A	1	.95	18.70	73.38	6.97	2.12	......	......	1.71	......	......	7,993	14,387	261	386
			2	......	18.88	74.08	7.04	2.14	......	......	1.73	......	......	8,070	14,526	*48*	
			3	......	20.31	79.69	......	2.30	......	......	1.86	......	......	8.675	15,615		
Same (east entry 4, 43-inch cut)	1053	A	1	.78	16.60	73.53	9.09	2.50	......	......	......	......	......	......	......	261	
			2	......	16.73	74.11	9.16	2.52	......	......	......	......	......	......	......	326	386
			3	......	18.42	81.58	......	2.77	......	......	......	......	......	......	......	*48*	
Same (over 1¼-inch screen, half carload)	1160	C	1	2.23	16.02	72.55	9.20	1.87	4.24	78.83	1.38	4.48	1.5	7,639	13,750	261	......
			2	......	16.39	74.20	9.41	1.91	4.08	80.63	1.41	2.56	......	7,814	14,065	326	
			3	......	18.09	81.91	......	2.11	4.51	89.01	1.56	2.81	......	8,625	15,525	*48*	
			4	......	......	......	......	......	4.60	90.92	1.59	2.89	......	8,762	15,772		
Burma, Hartshorne bed, sec. 20, T. 5 N., R. 31 W., Sunshine shaft, 3-foot cut.	3148	B	1	4.53	16.52	74.03	4.92	1.76	......	......	......	......	3.7	......	......	326	387
			2	......	17.30	77.55	5.15	1.84	......	......	......	......	......	......	......		
			3	......	18.24	81.76	......	1.94	......	......	......	......	......	......	......		
Same, sec. 1, T. 4 N., R. 32 W., south of Midland, Mammoth Vein No. 1 mine, Mammoth bed (89-inch cut).	1068	B	1	.90	18.35	71.65	9.10	1.74	......	......	......	......	......	......	......	326	387
			2	......	18.51	72.31	9.18	1.76	......	......	......	......	......	......	......	*48*	
			3	......	20.38	79.62	......	1.94	......	......	......	......	......	......	......		
Same (103-inch bed)	1066	B	1	.80	17.80	72.71	8.69	1.95	......	......	......	......	......	7,934	14,281	326	387
			2	......	17.94	73.30	8.76	1.97	......	......	......	......	......	7,998	14,396	*48*	
			3	......	19.66	80.34	......	2.16	......	......	......	......	......	8,766	15,779		
Sec. 19, T. 5 N., R. 31 W., Woodson's mine, Hartshorne bed (43-inch cut, weathered).	3155	B	1	3.54	14.89	74.88	6.69	1.21	......	......	......	......	2.7	......	......	316	388
			2	......	15.44	77.62	6.94	1.25	......	......	......	......	......	......	......	326	
			3	......	16.59	83.41	......	1.34	......	......	......	......	......	......	......		
Same (slope near railroad, 43-inch cut)	3156	B	1	2.80	15.93	74.06	7.21	.73	......	......	......	......	2.0	......	......	326	388
			2	......	16.39	76.19	7.42	.75	......	......	......	......	......	......	......		
			3	......	17.70	82.30	......	.81	......	......	......	......	......	......	......		

Sec. 20, T. 5 N., R. 31 W., Red Rock mine, Hartshorne bed, 36-inch cut.	3154	B	1	2.44	16.85	74.98	5.73	2.57	......	......	......	......	1.6	......	......	316	388
			2	......	17.27	76.86	5.87	2.63	......	......	......	......	......	......	......	326	
			3	......	18.35	81.65	......	2.79	......	......	......	......	......	......	......		
Same, Denman mine (36-inch cut)......	3158	B	1	2.65	15.70	74.52	7.13	2.86	......	......	......	......	1.9	......	......	316	388
			2	......	16.13	76.55	7.32	2.94	......	......	......	......	......	......	......	326	
			3	......	17.40	82.60	......	3.17	......	......	......	......	......	......	......		
Fort Smith, 5 miles from; Massard Prairie, sec. 30, T. 8 N., R. 31 W., Hartshorne bed, 27 to 30 inches thick.	3372	B	1	2.19	14.00	72.15	11.66	2.06	......	......	......	......	1.4	......	......	316	389
			2	......	14.31	73.77	11.92	2.11	......	......	......	......	......	......	......	326	
			3	......	16.25	83.75	......	2.40	......	......	......	......	......	......	......		
Greenwood, sec. 16, T. 6 N., R. 30 W., Banner mine, Hartshorne bed, 63-inch cut.	3175	B	1	2.26	15.79	71.91	10.04	1.20	......	......	......	......	1.6	......	......	316	389
			2	......	16.15	73.58	10.27	1.23	......	......	......	......	......	......	......		
			3	......	18.00	82.00	......	1.37	......	......	......	......	......	......	......		
Sec. 12, T. 6 N., R. 31 W., Greenwood No. 1 mine, lower part of mine, 72-inch cut.	3173	B	1	3.21	14.84	72.66	9.29	3.12	3.75	78.37	1.52	3.95	2.4	7,549	13,588	316	389
			2	......	15.33	75.07	9.60	3.22	3.50	80.97	1.57	1.14	......	7,799	14,038	326	
			3	......	16.96	83.04	......	3.57	3.87	89.57	1.74	1.25	......	8,628	15,530		
			4	......	......	......	......	......	4.02	92.89	1.80	1.29	......	8,863	15,953		
Hackett, 2 miles east of; sec. 18, T. 6 N., R. 31 W., Bates & McWilliams mine, Hartshorne bed, 34-inch cut.	3157	B	1	3.64	16.57	76.00	3.79	.83	......	......	......	......	3.0	......	......	316	390
			2	......	17.20	78.87	3.93	.86	......	......	......	......	......	......	......	326	
			3	......	17.90	82.10	......	.90	......	......	......	......	......	......	......		
Sec. 21, T. 6 N., R. 32 W., Hackett City mine, 3⅔-foot cut, Hartshorne bed.	3497	B	1	3.55	17.16	75.46	3.83	.96	......	......	......	......	2.8	......	......	316	390
			2	......	17.79	78.24	3.97	1.00	......	......	......	......	......	......	......	326	
			3	......	18.52	81.48	......	1.04	......	......	......	......	......	......	......		
Hartford, 2 miles northeast of; NE. ¼ SE. ¼ sec. 14, T. 4 N., R. 32 W., Patterson No. 1 mine, Hartshorne bed, 3½-foot cut.	3500	B	1	4.12	18.15	69.97	7.76	.98	......	......	......	......	3.4	......	......	316	390
			2	......	18.93	72.98	8.09	1.02	......	......	......	......	......	......	......	326	
			3	......	20.60	79.40	......	1.11	......	......	......	......	......	......	......		
Huntington, 1 mile west of; No. 3 mine, Hartshorne bed (east entry 4, north side, 6⅓-foot cut).	1045	A	1	1.02	17.88	73.61	7.49	1.10	......	......	1.71	......	......	8,019	14,434	261	391
			2	......	18.06	74.37	7.57	1.11	......	......	1.73	......	......	8,102	14,583	*48*	
			3	......	19.54	80.46	......	1.20	......	......	1.87	......	......	8,765	15,772	28	
Same (east entry 4, south side, 85-inch cut)....	1046	A	1	.75	18.50	73.77	6.98	1.15	......	......	......	......	......	......	......	261	391
			2	......	18.64	74.33	7.03	1.16	......	......	......	......	......	......	......	*48*	
			3	......	20.05	79.95	......	1.25	......	......	......	......	......	......	......	28	
Same (half mile south of shaft, east entry 7, off main south entry, 70-inch cut).	2585	A	1	3.53	16.66	72.04	7.77	1.29	......	......	......	......	2.9	7,787	14,017	332	391
			2	......	17.27	74.68	8.05	1.34	......	......	......	......	......	8,073	14,530	336	
			3	......	18.78	81.22	......	1.46	......	......	......	......	......	8,779	15,802		
Same (900 feet west of shaft, back entry, first dip, 6½-foot cut).	2586	A	1	4.00	16.82	72.04	7.14	1.32	......	......	......	......	3.5	......	......	332	......
			2	......	17.52	75.04	7.44	1.38	......	......	......	......	......	......	......	23	
			3	......	18.93	81.07	......	1.49	......	......	......	......	......	......	......		
Same (over 1⅓-inch screen, 44 tons)......	1114	C	1	3.24	17.46	66.69	12.61	1.24	4.15	74.09	1.44	6.47	2.1	7,294	13,129	261	
			2	......	18.04	68.93	13.03	1.28	3.92	76.57	1.49	3.71	......	7,538	13,569	316	
			3	......	20.74	79.26	......	1.47	4.50	88.05	1.71	4.27	......	8,668	15,602	*48*	
			4	......	......	......	......	......	4.58	89.35	1.74	4.33	......	8,764	15,775		
Same (slack)......	2689	C	1	7.49	15.16	59.38	17.97	1.06	4.34	65.54	1.36	9.73	6.7	6,316	11,369	326	......
			2	......	16.39	64.18	19.43	1.15	3.79	70.85	1.47	3.31	......	6,828	12,290	332	
			3	......	20.33	79.67	......	1.42	4.71	87.93	1.82	4.12	......	8,474	15,253		
			4	......	......	......	......	......	4.78	89.18	1.85	4.19	......	8,563	15,413		
Jenny Lind, No. 17 mine, SW. ¼ sec. 32, T. 7 N., R. 31 W., Hartshorne bed, 72-inch cut.	3149	B	1	3.03	14.92	74.66	7.39	1.72	......	......	......	......	2.2	......	......	326	392
			2	......	15.39	76.99	7.62	1.77	......	......	......	......	......	......	......		
			3	......	16.66	83.34	......	1.92	......	......	......	......	......	......	......		
Same (6-foot cut)......	1030	B	1	.95	17.91	71.52	9.62	2.07	......	......	......	......	......	7,831	14,096	326	392
			2	......	18.08	72.21	9.71	2.09	......	......	......	......	......	7,906	14,231		
			3	......	20.02	79.98	......	2.31	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
ARKANSAS—Continued.																	
SEBASTIAN COUNTY—continued.																	
Jenny Lind, No. 17 mine—Continued.																	
Same	1031	A	1	.80	17.20	74.35	7.65	1.64	......	......	......	......	......	......	......	326	392
			2	......	17.34	74.95	7.71	1.65	......	......	......	......	......	......	......		
			3	......	18.79	81.21	......	1.79	......	......	......	......	......	......	......		
Same (one of the west entries, 76-inch bed)	3153	B	1	3.18	14.64	76.06	6.12	1.51	......	......	......	......	2.4	......	......	316	392
			2	......	15.12	78.56	6.32	1.56	......	......	......	......	......	......	......	326	
			3	......	16.14	83.86	......	1.67	......	......	......	......	......	......	......		
Near; sec. 36, T. 7 N., R. 32 W., No. 18 mine, Jenny Lind bed (main east slope, 52½-inch cut).	1115	A	1	1.60	17.40	73.09	7.91	1.42	......	......	......	......	.8	7,868	14,162	261	392
			2	......	17.68	74.28	8.04	1.44	......	......	......	......	......	7,996	14,392	*48*	
			3	......	19.23	80.77	......	1.57	......	......	......	......	......	8,695	15,651	22	
Same (main west slope, 3½-foot cut)	1118	A	1	1.63	16.68	69.03	12.66	1.46	......	......	......	......	.8	......	......	326	392
			2	......	16.96	70.17	12.87	1.48	......	......	......	......	......	......	......	*48*	
			3	......	19.46	80.54	......	1.70	......	......	......	......	......	......	......	22	
Same (over 1¼-inch screen, 11 tons)	1296	C	1	2.19	19.47	66.71	11.63	1.28	4.17	75.31	1.53	6.08	1.4	7,480	13,464	261	......
			2	......	19.91	68.20	11.89	1.31	4.02	77.00	1.56	4.22	......	7,648	13,766	326	
			3	......	22.60	77.40	......	1.49	4.56	87.39	1.78	4.78	......	8,680	15,624	*48*	
			4	......	......	......	......	......	4.63	88.71	1.80	4.86	......	8,778	15,800		
Same (slack, 12 tons)	1542	C	1	3.80	13.89	68.50	13.81	1.26	......	......	......	......	3.0	......	......	261	......
			2	......	14.44	71.20	14.36	1.31	......	......	......	......	......	......	......	326	
			3	......	16.86	83.14	......	1.53	......	......	......	......	......	......	......	*48*	
Same (52-inch cut)	3151	B	1	1.95	15.55	73.27	9.23	1.23	......	......	......	......	1.2	......	......	326	392
			2	......	15.86	74.73	9.41	1.25	......	......	......	......	......	......	......		
			3	......	17.51	82.49	......	1.38	......	......	......	......	......	......	......		
Midland, 4 miles southwest of; Mammoth Vein mine, Hartshorne bed (950 feet northwest of slope, room 4, west entry 3, 7-foot cut).	2593	A	1	3.97	16.86	73.26	5.91	1.53	......	......	......	......	3.5	7,909	14,236	332	393
			2	......	17.56	76.29	6.15	1.59	......	......	......	......	......	8,236	14,824	18	
			3	......	18.71	81.29	......	1.69	......	......	......	......	......	8,776	15,797	22	
Same (900 feet northeast of slope, entry 1, 53-inch cut).	2594	A	1	5.38	16.02	69.76	8.84	3.20	......	......	......	......	4.9	......	......	332	393
			2	......	16.93	73.73	9.34	3.38	......	......	......	......	......	......	......	18	
			3	......	18.67	81.33	......	3.73	......	......	......	......	......	......	......	22	
Same (lump, over 2-inch perforated screen)	2688	C	1	5.47	16.27	66.57	11.69	2.02	4.33	72.63	1.26	8.07	4.9	7,060	12,690	332	......
			2	......	17.21	70.42	12.37	2.14	3.94	76.84	1.33	3.38	......	7,458	13,424		
			3	......	19.64	80.36	......	2.44	4.49	87.67	1.52	3.88	......	8,510	15,318		
			4	......	......	......	......	......	4.60	89.86	1.56	3.98	......	8,667	15,601		

Same (slack, through 2-inch perforated screen).	2722	C	1	6.89	15.23	62.88	15.00	2.24	4.44	68.28	1.26	8.78	5.9	6,700	12,060	332	......
			2	....	16.36	67.53	16.11	2.41	3.94	73.33	1.35	2.86	....	7,196	12,952		
			3	....	19.50	80.50	....	2.87	4.70	87.41	1.61	3.41	....	8,578	15,440		
			4	....	....	....	....	....	4.85	90.00	1.66	3.49	....	8,765	15,777		
Montreal, sec. 18, T. 5 N., R. 32 W., No. 5 mine, lower slope entry, Hartshorne, 3½-foot bed.	3152	B	1	2.57	15.48	76.17	5.78	2.05	....	....	....	....	1.8	....	....	316	394
			2	....	15.89	78.18	5.93	2.11	....	....	....	....	....	....	....	326	
			3	....	16.89	83.11	....	2.23	....	....	....	....	....	....	....		
Sec. 13, T. 5 N., R. 32 W., Cherokee No. 6 mine, Hartshorne bed (34-inch cut).	1052	A	1	.97	19.68	69.62	9.73	1.11	....	....	....	....	....	7,790	14,022	326	394
			2	....	19.87	70.30	9.83	1.12	....	....	....	....	....	7,866	14,159		
			3	....	22.04	77.96	....	1.24	....	....	....	....	....	8,723	15,701		
Same (33-inch cut)	1054	A	1	1.00	16.90	71.80	10.30	.60	....	....	....	....	....	....	....	326	394
			2	....	17.07	72.53	10.40	.61	....	....	....	....	....	....	....		
			3	....	19.05	80.95	....	.68	....	....	....	....	....	....	....		
Sec. 19, T. 5 N., R. 31 W., Branner mine, Hartshorne bed (42-inch cut).	3150	B	1	3.01	15.75	75.93	5.31	.93	....	....	....	....	2.2	....	....	316	394
			2	....	16.24	78.29	5.47	.96	....	....	....	....	....	....	....	326	
			3	....	17.18	82.82	....	1.02	....	....	....	....	....	....	....		
CALIFORNIA.																	
ALAMEDA COUNTY.																	
Tesla, Tesla mine, Eureka (Summit) lignite bed	1606	B	1	17.59	41.09	23.29	18.03	2.89	....	....	....	....	4.6	....	....	290	395
			2	....	49.86	28.26	21.88	3.51	....	....	....	....	....	....	....	18	
			3	....	63.83	36.17	....	4.49	....	....	....	....	....	....	....		
Same	1607	B	1	18.02	39.22	26.39	16.37	3.07	....	....	.49	....	4.5	4,503	8,105	290	395
			2	....	47.84	32.19	19.97	3.74	....	....	.60	....	....	5,493	9,887	18	
			3	....	59.78	40.22	....	4.67	....	....	.75	....	....	6,863	12,353		
Same (run of mine)	1680	C	1	18.51	35.33	30.67	15.49	3.05	5.93	47.34	.66	27.53	10.4	4,726	8,507	290	......
			2	....	43.36	37.63	19.01	3.74	4.75	58.09	.81	13.60	....	5,799	10,438		
			3	....	53.53	46.47	....	4.62	5.86	71.73	1.00	16.79	....	7,161	12,890		
			4	....	....	....	....	....	6.15	75.20	1.05	17.60	....	7,397	13,314		
CONTRA COSTA COUNTY.																	
Los Medanos (mail, Black Diamond), Black Diamond mine, 1,500 feet from shaft, 32-inch bed, 31-inch cut.	2463	B	1	14.97	38.40	34.49	12.14	5.57	....	....	....	....	7.7	5,134	9,241	290	395
			2	....	45.16	40.56	14.28	6.55	....	....	....	....	....	6,038	10,868		
			3	....	52.68	47.32	....	7.64	....	....	....	....	....	7,043	12,677		
MONTEREY COUNTY.																	
Stone Canyon, sec. 14, T. 22 S., R. 13 E., 26 miles from San Miguel (1,600 feet east of shaft, 300-foot level, 16-foot bed, 5½-foot cut near top).	3772	B	1	7.13	44.47	37.03	11.37	4.60	....	....	....	....	3.5	....	....	285	396
			2	....	47.89	39.87	12.24	4.95	....	....	....	....	....	....	....	316	
			3	....	54.57	45.43	....	5.64	....	....	....	....	....	....	....		
Same (2,000 feet from shaft, 12¾-foot cut)	3773	B	1	6.95	46.69	40.13	6.23	4.17	6.28	66.01	1.17	16.14	2.2	6,915	12,447	285	396
			2	....	50.18	43.12	6.70	4.48	5.92	70.94	1.26	10.70	....	7,431	13,376	316	
			3	....	53.78	46.22	....	4.80	6.35	76.03	1.35	11.47	....	7,965	14,336		
			4	....	....	....	....	....	6.66	79.87	1.42	12.05	....	8,253	14,855		
SAN BENITO COUNTY.																	
Hernandez, about 8¾ miles northwest of; Trafton mine, NW. ¼ NW. ¼ sec. 21, T. 17 S., R. 10 E., 75 feet in mine at end of main slope (Trafton bed), 59-inch cut.	7914	B	1	15.97	33.69	39.59	10.75	4.38	5.96	54.18	.86	23.87	4.3	5,384	9,691	......	396
			2	....	40.09	47.12	12.79	5.21	4.99	64.48	1.02	11.51	....	6,407	11,533		
			3	....	45.97	54.03	....	5.97	5.72	73.94	1.17	13.20	....	7,347	13,225		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
COLORADO.																	
ADAMS COUNTY.																	
Lafayette, about 2½ miles east of; sec. 6, T. 1 S., R. 68 W., Parkdale mine, 200 feet east of foot of slope, close to fault, 4-foot cut (special sample to show effect of fault movement).	6832	B	1	18.85	31.11	46.18	3.86	0.27	6.18	57.47	0.99	31.23	11.4	5,506	9,911	381	397
			2	....	38.34	56.90	4.76	.33	5.04	70.82	1.22	17.83	....	6,785	12,213		
			3	....	40.26	59.74	....	.35	5.29	74.36	1.28	18.72	....	7,124	12,823		
Same (upper bench, 64-inch cut), 150 feet west of slope.	6833	B	1	19.65	30.75	43.60	6.00	.33	6.02	56.54	1.02	30.09	13.0	4,799	8,638	381	397
			2	....	38.27	54.26	7.47	.41	4.78	70.37	1.27	15.70	....	5,973	10,751		
			3	....	41.37	58.63	....	.44	5.17	76.05	1.37	16.97	....	6,455	11,619		
Same (lower bench, 44-inch cut), 150 feet west of slope).	6834	B	1	21.15	28.11	44.21	6.53	.46	5.93	55.37	.99	30.72	16.5	5,145	9,262	381	397
			2	....	35.65	56.07	8.28	.58	4.54	70.21	1.26	15.13	....	6,525	11,745		
			3	....	38.87	61.13	....	.63	4.95	76.54	1.38	16.50	....	7,114	12,805		
ARCHULETA COUNTY.																	
Pagosa Springs, 12 miles northeast of; NE. ¼ sec. 36, T. 36 N., R. 1 W., Kleckner mine, 5½-foot bed.	4175	B	1	9.50	34.78	45.75	9.97	1.14	....	....	....	....	2.2	....	....	341	397
			2	....	38.43	50.55	11.02	1.26	....	....	....	....	....	....	....		
			3	....	43.19	56.81	....	1.42	....	....	....	....	....	....	....		
BOULDER COUNTY.																	
Lafayette, 1 mile southeast of; sec. 1, T. 1 S., R. 69 W., Rankin mine, 200 feet north and 200 feet east of shaft, 73-inch cut.	6840	B	1	19.15	30.82	44.27	5.76	.25	5.93	56.38	1.08	30.60	13.4	5,342	9,616	381	397
			2	....	38.12	54.76	7.12	.31	4.70	69.74	1.34	16.79	....	6,608	11,894		
			3	....	41.04	58.96	....	.33	5.06	75.09	1.44	18.08	....	7,115	12,807		
Simpson mine, lower bed (room 23, off southwest entry 23, 14-foot cut).	1383	A	1	20.02	33.81	42.56	3.61	.52	....	....	1.18	....	3.9	5,687	10,237	261	398
			2	....	42.27	53.22	4.51	.65	....	....	1.48	....	....	7,111	12,800	*48*	
			3	....	44.27	55.73	....	.68	....	....	1.55	....	....	7,447	13,405	*18*	
Same (room 5, off northwest entry 4, 11-foot cut).	1397	A	1	21.84	34.00	40.68	3.48	.46	....	....	....	....	4.0	....	....	261	398
			2	....	43.50	52.05	4.45	.59	....	....	....	....	....	....	....	*48*	
			3	....	45.53	54.47	....	.62	....	....	....	....	....	....	....	*18*	
Same (run of mine).......	1523	C	1	18.68	34.88	40.45	5.99	.55	6.07	57.46	1.15	28.78	6.0	5,635	10,143	261	......
			2	....	42.89	49.74	7.37	.68	4.91	70.66	1.41	14.97	....	6,939	12,472	*48*	
			3	....	46.30	53.70	....	.73	5.30	76.28	1.53	16.16	....	7,480	13,464		
			4	....	....	....	....	....	5.33	76.84	1.54	16.29	....	7,520	13,536		
Same (run of mine).......	2322	C	1	17.95	31.76	40.44	9.85	.37	....	....	....	....	7.5	5,334	9,601	......	......
			2	....	38.71	49.29	12.00	.45	....	....	....	....	....	6,500	11,701		
			3	....	43.99	56.01	....	.51	....	....	....	....	....	7,386	13,296		

Same (1,500 feet southwest, room 9, off entry 87, lower bed).	792D	A	1	18.77	37.28	39.97	3.98	.30	......	......	......	......	1.3	5,604	10,087	5	398
			2	......	45.90	49.20	4.90	.37	......	......	......	......	......	6,899	12,418		
			3	......	48.26	51.74	......	.39	......	......	......	......	......	7,254	13,057		
Same (3,000 feet west, room 6, off entry 69, lower 7-foot bed).	793D	A	1	21.08	39.35	36.16	3.41	.36	......	......	......	......	5.4	......	......	5	399
			2	......	49.86	45.82	4.32	.46	......	......	......	......	......	......	......		
			3	......	52.11	47.89	......	.48	......	......	......	......	......	......	......		
Same (run of mine)	803D	C	1	19.28	34.61	41.41	4.70	.39	5.99	57.94	1.28	29.70	5.50	5,591	9,064	5	......
			2	......	42.87	51.30	5.83	.48	4.77	71.78	1.58	15.56	......	6,926	12,467		
			3	......	45.52	54.48	......	.51	5.07	76.22	1.68	16.52	......	7,355	13,239		
Louisville, near; sec. 8, T. 1 S., R. 69 W., Acme mine, north of fault (900 feet north and 400 feet east of shaft, 80½-inch cut).	6838	B	1	21.63	27.84	46.98	3.55	.37	5.93	56.06	1.09	33.00	15.1	5,282	9,508	381	399
			2	......	35.52	59.95	4.53	.47	4.51	71.53	1.39	17.57	......	6,740	12,132		
			3	......	37.21	62.79	......	.49	4.72	74.93	1.46	18.40	......	7,060	12,708		
Same (800 feet south and 950 feet east of foot of shaft, 55-inch cut).	6837	B	1	20.45	30.53	43.99	5.03	.34	6.10	56.17	1.12	31.24	14.1	5,291	9,524	381	399
			2	......	38.38	55.30	6.32	.43	4.81	70.61	1.41	16.42	......	6,651	11,972		
			3	......	40.97	59.03	......	.46	5.13	75.38	1.51	17.52	......	7,100	12,780		
Same (800 feet south and 950 feet east of foot of shaft, south of fault, 40-inch cut).	6839	B	1	18.79	30.51	44.45	6.25	.34	6.00	56.35	1.08	29.98	9.8	5,360	9,648	381	399
			2	......	37.57	54.73	7.70	.42	4.81	69.39	1.33	16.35	......	6,600	11,880		
			3	......	40.70	59.30	......	.46	5.21	75.18	1.44	17.71	......	7,150	12,870		
Marshall, northwest of; sec. 14, T. 1 S., R. 70 W., Mitchell-Monarch mine (75 feet north and 350 feet east of foot of shaft, 235-foot level, 6-foot cut).	6835	B	1	18.86	30.83	47.02	3.29	.26	5.90	58.59	1.09	30.87	12.6	5,407	9,733	381	399
			2	......	37.99	57.96	4.05	.32	4.68	72.21	1.34	17.40	......	6,664	11,955		
			3	......	39.59	60.41	......	.33	4.88	75.26	1.40	18.13	......	6,945	12,501		
Superior, sec. 24, T. 1 S., R. 70 W., Industrial mine, 7-foot bed (1,250 feet east and 450 feet south of shaft, 84-inch cut).	6836	B	1	17.32	32.05	45.99	4.64	.31	5.96	58.51	1.14	29.44	9.9	5,526	9,947	381	400
			2	......	38.76	55.63	5.61	.37	4.89	70.77	1.38	16.98	......	6,684	12,031		
			3	......	41.06	58.94	......	.39	5.18	74.97	1.46	18.00	......	7,081	12,746		
DELTA COUNTY.																	
Bowie, King mine, NE. ¼ NE. ¼ sec. 15, T. 13 S., R. 91 W., Juanita 14-foot bed, (900 feet northwest of opening, room 1, first butt entry, west, 82-inch cut).	378D	A	1	2.52	39.33	53.16	4.99	.59	......	......	......	......	.5	7,578	13,640	368	400
			2	......	40.35	54.53	5.12	.61	......	......	......	......	......	7,774	13,993		
			3	......	42.53	57.47	......	.64	......	......	......	......	......	8,193	14,747		
Same (1,070 feet N. 27° W. of opening, 77-inch cut).	379D	A	1	4.38	40.29	50.93	4.40	.61	......	......	......	......	.9	......	......	368	400
			2	......	42.14	53.26	4.60	.64	......	......	......	......	......	......	......		
			3	......	44.17	55.83	......	.67	......	......	......	......	......	......	......		
Same (run of mine, 34 tons)	399D	C	1	3.29	39.74	52.16	4.81	.62	5.69	74.33	.99	13.56	.9	7,433	13,379	368	......
			2	......	41.09	53.94	4.97	.64	5.51	76.86	1.02	11.00	......	7,686	13,834		
			3	......	43.24	56.76	......	.67	5.79	80.88	1.08	11.58	......	8,088	14,558		
Same (700 feet from opening, upper 2 benches, 57-inch cut).	5533	B	1	2.41	29.14	58.38	10.07	.52	4.74	71.93	1.18	11.56	1.4	7,020	12,636	341	400
			2	......	29.86	59.82	10.32	.53	4.58	73.71	1.21	9.65	......	7,193	12,947		
			3	......	33.30	66.70	......	.59	5.11	82.19	1.35	10.76	......	8,021	14,438		
Same (700 feet from opening, lower bench, 6¾-foot cut).	5531	B	1	2.34	34.97	58.42	4.27	.54	5.37	75.31	1.31	13.20	1.1	7,556	13,601	341	400
			2	......	35.81	59.82	4.37	.55	5.23	77.11	1.34	11.40	......	7,737	13,927		
			3	......	37.45	62.55	......	.58	5.47	80.63	1.40	11.92	......	8,091	14,564		
Same (500 feet from opening, lower bench, 6½-foot cut, "dead" coal).	5532	B	1	2.64	28.84	63.31	5.21	.66	5.05	76.81	1.28	10.99	1.7	7,516	13,529	341	400
			2	......	29.62	65.03	5.35	.68	4.89	78.89	1.31	8.88	......	7,720	13,896		
			3	......	31.30	68.70	......	.72	5.17	83.35	1.38	9.38	......	8,156	14,681		
One-half mile northwest of; King mine (old workings) 700 feet from mouth, 4-foot cut.	5760	B	1	3.37	35.09	53.02	8.52	.62	5.41	71.18	1.59	12.68	.8	7,238	13,028	341	401
			2	......	36.31	54.87	8.82	.64	5.22	73.66	1.65	10.01	......	7,490	13,482		
			3	......	39.83	60.17	......	.70	5.72	80.78	1.81	10.99	......	8,214	14,785		
3 miles southwest of; 3 miles north of Paonia, SW. ¼ SW. ¼ sec. 17, T. 13 S., R. 91 W., Cooperative mine, 300 feet in, lower bench 8¾ foot cut.	5527	B	1	9.37	34.75	53.04	2.84	.50	5.81	69.94	1.31	19.60	3.6	6,883	12,389	341	401
			2	......	38.34	58.53	3.13	.55	5.26	77.17	1.45	12.44	......	7,595	13,671		
			3	......	39.58	60.42	......	.57	5.43	79.66	1.50	12.84	......	7,840	14,112		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
COLORADO—Continued.																	
DELTA COUNTY—continued.																	
Cedaredge, 2 miles northeast of; SW. ¼ NE. ¼ sec. 15, T. 13 S., R. 94 W., McGruder mine, 250 feet from mouth, upper bench 3½-foot cut.	5524	B	1	9.85	32.76	43.46	13.93	1.83	......	......	......	......	3.1	5,683	10,229	341	402
			2	......	36.34	48.21	15.45	2.03	......	......	......	......	......	6,304	11,347		
			3	......	42.98	57.02	......	2.40	......	......	......	......	......	7,456	13,421		
4½ miles northeast of; NE. ¼ SE. ¼ sec. 12, T. 13 S., R. 94 W., Ward mine, 200 feet in, 5½-foot cut.	5538	B	1	10.24	31.57	42.10	16.09	.60	......	......	......	......	3.0	5,589	10,060	341	402
			2	......	35.17	46.90	17.93	.67	......	......	......	......	......	6,227	11,209		
			3	......	42.85	57.15	......	.81	......	......	......	......	......	7,588	13,659		
8½ miles east of; 8 miles north of Hotchkiss, SW. ¼ NW. ¼ sec. 23, T. 13 S., R. 93 W., Bennett mine, 50 feet from mouth, 5½-foot cut.	5525	B	1	13.97	31.90	43.23	10.90	.54	......	......	......	......	4.7	5,667	10,201	341	403
			2	......	37.08	50.25	12.67	.63	......	......	......	......	......	6,587	11,857		
			3	......	42.46	57.54	......	.72	......	......	......	......	......	7,543	13,577		
9 miles east of; 4 miles north of Hotchkiss, SE. ¼ NW. ¼ sec. 26, T. 13 S., R. 93 W., Newman mine, 240 feet in, 14-foot cut.	5537	B	1	15.54	33.03	46.06	5.37	.58	5.89	60.08	1.05	27.03	4.7	5,865	10,557	341	403
			2	......	39.11	54.54	6.35	.69	4.93	71.13	1.24	15.66	......	6,943	12,497		
			3	......	41.76	58.24	......	.74	5.26	75.95	1.32	16.73	......	7,414	13,345		
Hotchkiss, 6 miles north of; SE. ¼ SW. ¼ sec. 30, T. 13 S., R. 92 W., Burdick mine, 800 feet in, 74-inch cut, wet sample.	5536	B	1	16.67	33.10	46.27	3.96	.47	......	......	......	......	5.2	5,945	10,701	341	403
			2	......	39.72	55.53	4.75	.56	......	......	......	......	......	7,134	12,841		
			3	......	41.70	58.30	......	.59	......	......	......	......	......	7,490	13,482		
8 miles northeast of; SE. ¼ NE. ¼ sec. 21, T. 13 S., R. 92 W., Stucker mine, 50 feet in, upper bench, 6½-foot cut, weathered.	5552	B	1	22.40	31.19	42.16	4.25	.30	......	......	......	......	8.8	4,533	8,159	341	404
			2	......	40.19	54.33	5.48	.39	......	......	......	......	......	5,841	10,514		
			3	......	42.52	57.48	......	.41	......	......	......	......	......	6,180	11,124		
Paonia, 3 miles northwest of; NW. ¼ SE. ¼ sec. 24, T. 13 S., R. 92 W., Conine mine, 300 feet in, upper bench, 7¾-foot cut.	5551	B	1	8.90	32.61	47.05	11.44	.81	5.34	62.03	1.26	19.12	3.3	6,174	11,113	341	404
			2	......	35.80	51.64	12.56	.89	4.77	68.09	1.38	12.31	......	6,777	12,199		
			3	......	40.94	59.06	......	1.02	5.45	77.87	1.58	14.08	......	7,751	13,952		
Same (lower bench, 6½-foot cut)................	5526	B	1	13.64	30.89	47.33	8.14	.68	5.41	58.06	1.24	26.47	5.2	5,576	10,037	341	404
			2	......	35.77	54.80	9.43	.79	4.50	67.23	1.44	16.61	......	6,457	11,623		
			3	......	39.49	60.51	......	.87	4.97	74.23	1.59	18.34	......	7,129	12,832		
Rollins, NW. ¼ NW. ¼ sec. 35, T. 13 S., R. 96 W., Rollins mine, 285 feet in, lower bench, 11-foot cut.	5542	B	1	19.14	31.20	41.73	7.93	.75	6.06	55.11	1.10	29.05	5.9	5,322	9,580	341	405
			2	......	38.59	51.60	9.81	.93	4.86	68.15	1.36	14.89	......	6,582	11,848		
			3	......	42.78	57.22	......	1.03	5.39	75.56	1.51	16.51	......	7,298	13,136		
1 mile southwest of; SE. ¼ SE. ¼ sec. 34, T. 13 S., R. 96 W., Kuhnley mine, 2,000 feet in, 7½-foot cut.	5541	B	1	17.18	30.67	41.41	10.74	.70	......	......	......	......	5.0	5,202	9,364	341	405
			2	......	37.03	50.00	12.97	.85	......	......	......	......	......	6,281	11,306		
			3	......	42.55	57.45	......	.97	......	......	......	......	......	7,217	12,991		
3 miles northeast of; SW. ¼ NE. ¼, sec. 19, T. 13 S., R. 95 W., Fairview mine, 800 feet in, 77-inch cut.	5540	B	1	16.37	29.79	45.39	8.45	.45	5.87	56.74	1.13	27.36	4.3	5,616	10,109	341	406
			2	......	35.62	54.28	10.10	.54	4.84	67.84	1.35	15.33	......	6,715	12,087		
			3	......	39.62	60.38	......	.60	5.38	75.46	1.50	17.06	......	7,469	13,444		

5 miles northeast of; 5 miles northwest of Cedaredge, SE. ¼ NW. ¼, sec. 16, T. 13 S., R. 95 W., Winton mine, 500 feet in (upper bench, 4-foot cut).	5522	B	1	14.16	31.29	48.48	6.07	.68	5.90	61.15	1.22	24.98	4.9	6,016	10,829	341	406
			2	....	36.45	56.48	7.07	.80	5.05	71.24	1.42	14.42	....	7,009	12,616		
			3	....	39.22	60.78	....	.86	5.43	76.66	1.53	15.52	....	7,542	13,756		
Same (lower bench, 5-foot cut)................	5539	B	1	15.26	30.24	45.83	8.67	.60	5.87	59.24	1.11	24.51	5.5	5,780	10,404	341	406
			2	....	35.69	54.08	10.23	.71	4.92	69.91	1.31	12.92	....	6,821	12,278		
			3	....	39.75	60.25	....	.79	5.48	77.88	1.46	14.39	....	7,599	13,678		
7 miles northeast of; SW. ¼ SE. ¼ sec. 11, T. 13 S., R. 95 W., Watson mine, 200 feet in, upper bench, 3½-foot cut.	5521	B	1	13.36	33.72	48.69	4.23	.56	5.88	62.11	1.30	25.92	4.6	6,226	11,207	341	407
			2	....	38.92	56.20	4.88	.65	5.08	71.69	1.50	16.20	....	7,186	12,935		
			3	....	40.92	59.08	....	.68	5.34	75.37	1.58	17.03	....	7,555	13,599		
8¾ miles northeast of; NW. ¼ NE. ¼ sec. 13, T. 13 S., R. 95 W., States mine, 110 feet in, 77 inches of lower bench.	5523	B	1	13.57	32.58	46.17	7.68	.83	....	....	....	....	5.4	5,921	10,658	341	407
			2	....	37.70	53.41	8.89	.96	....	....	....	....	....	6,851	12,332		
			3	....	41.37	58.63	....	1.05	....	....	....	....	....	7,520	13,536		
Wells Gulch, sec. 18, T. 4 S., R. 3 E., 160 feet from mouth of mine, 1½-foot cut, weathered.	5534	B	1	6.53	33.85	50.95	8.67	1.11	....	....	....	....	2.1	6,078	10,940	341	408
			2	....	36.21	54.51	9.28	1.19	....	....	....	....	....	6,503	11,705		
			3	....	39.91	60.09	....	1.31	....	....	....	....	....	7,168	12,902		
EL PASO COUNTY.																	
Calhan, 6 miles northeast of; SE. ¼ NW. ¼, sec. 27, T. 11 S., R. 61 W., Purdon mine, 21½-inch cut.	7128	B	1	34.40	24.44	27.27	13.89	.14	6.46	35.94	.66	42.91	26.4	3,364	6,055	381	408
			2	....	37.26	41.57	21.17	.21	4.02	54.79	1.01	18.80	....	5,128	9,230		
			3	....	47.27	52.73	....	.27	5.10	69.51	1.28	23.84	....	6,505	11,709		
Colorado Springs, 3¾ miles northeast of; sec. 4, T. 14 S., R. 66 W., Keystone mine, A bed, 3½-foot cut, 50 feet south of entry, 800 feet from foot of shaft.	6546	B	1	25.64	30.19	38.60	5.57	.42	6.32	51.69	.71	35.29	16.9	4,848	8,726	381	408
			2	....	40.60	51.91	7.49	.56	4.67	69.51	.95	16.82	....	6,520	11,736		
			3	....	43.89	56.11	....	.61	5.05	75.14	1.03	18.17	....	7,048	12,686		
4 miles north of; sec. 13, T. 13 S., R. 67 W., Neer mine, main entry, 130 feet south of shaft, A bed, 55-inch cut.	6439	B	1	22.19	34.58	37.40	5.83	.47	....	....	....	....	17.4	4,724	8,503	381	409
			2	....	44.44	48.07	7.49	.60	....	....	....	....	....	6,071	10,928		
			3	....	48.04	51.96	....	.65	....	....	....	....	....	6,563	11,813		
4 miles north of; SE. ¼, NE. ¼, sec. 24, T. 13 S., R. 67 W., prospect opening, C bed, 2½-foot cut.	7129	B	1	23.07	31.20	35.60	10.13	.21	5.77	47.69	.64	35.56	14.5	4,461	8,030	381	409
			2	....	40.56	46.27	13.17	.27	4.17	61.99	.83	19.57	....	5,799	10,438		
			3	....	46.71	53.29	....	.31	4.80	71.39	.96	22.54	....	6,679	12,022		
4 miles northeast of; sec. 33, T. 13 S. R. 66 W., Rapson mine, A bed, 8-foot cut (5 feet 9 inches sampled), room 3, south entry 4.	6441	B	1	19.90	34.26	38.36	7.48	.37	....	....	....	....	14.6	4,802	8,643	381	409
			2	....	42.77	47.89	9.34	.46	....	....	....	....	....	5,995	10,791		
			3	....	47.18	52.82	....	.51	....	....	....	....	....	6,613	11,903		
Curtis, sec. 29, T. 13 S., R. 66 W., Curtis mine, A bed, 12¾-foot bench (only 6 feet 10 inches sampled), from back entry off north entry 7.	6440	B	1	20.92	33.68	39.87	5.53	.39	6.05	52.25	.69	35.09	15.6	4,951	8,912	381	410
			2	....	42.59	50.42	6.99	.49	4.72	66.07	.87	20.86	....	6,261	11,270		
			3	....	45.79	54.21	....	.53	5.07	71.04	.94	22.42	....	6,732	12,118		
Sec. 29, T. 13 S., R. 66 W., Danville mine, A bed, 6-foot 5-inch cut, from main slope beyond entry 9.	6442	B	1	21.80	33.62	37.91	6.67	.40	....	....	....	....	15.4	4,735	8,523	381	410
			2	....	42.99	48.48	8.53	.51	....	....	....	....	....	6,055	10,899		
			3	....	47.00	53.00	....	.56	....	....	....	....	....	6,620	11,916		
Franceville, 2 miles south of; sec. 30, T. 14 S., R. 64 W., Cell or New Franceville mine, A bed, 3½-foot cut, 1,050 feet northeast of mouth of slope.	6438	B	1	19.23	32.34	41.41	7.02	.45	5.79	53.63	.86	32.25	14.5	5,170	9,306	381	410
			2	....	40.04	51.27	8.69	.56	4.52	66.40	1.06	18.77	....	6,401	11,522		
			3	....	43.85	56.15	....	.61	4.95	72.72	1.16	20.56	....	7,010	12,628		
2¼ miles southeast of; sec. 29, T. 14 S., R. 64 W., Davies mine, 425 feet northeast of mouth, A bed, 41-inch cut.	6437	B	1	22.12	32.46	38.88	6.54	.48	....	....	....	....	18.0	5,631	10,136	381	411
			2	....	41.68	49.92	8.40	.62	....	....	....	....	....	7,230	13,014		
			3	....	45.50	54.50	....	.68	....	....	....	....	....	7,893	14,207		
Pikeview, sec. 18, T. 13 S., R. 66 W., Carlton mine, 8¾-foot bed, 6⅝-foot cut, face of room 19, entry 13.	6443	B	1	25.52	31.56	38.08	4.84	.25	....	....	....	....	15.3	4,614	8,305	381	411
			2	....	42.37	51.13	6.50	.34	....	....	....	....	....	6,195	11,151		
			3	....	45.32	54.68	....	.36	....	....	....	....	....	6,626	11,927		
3 miles northwest of; SW. ¼ sec. 11, T. 13 S., R. 67 W., Monument Valley mine (south wall of slope 20 feet from mouth), B 3-foot bed 31-inch cut, weathered.	6545	B	1	20.14	35.13	37.64	7.09	1.03	5.74	51.64	.58	33.92	11.4	4,857	8,743	381	412
			2	....	43.99	47.13	8.88	1.29	4.38	64.66	.73	20.06	....	6,082	10,948		
			3	....	48.28	51.72	....	1.42	4.81	70.96	.80	22.01	....	6,675	12,015		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
COLORADO—Continued.																	
FREMONT COUNTY.																	
Canon City, Royal Gorge No. 2 mine, level 6 (south side of main entry, Lower, 3¾-foot, bed, 44-inch cut).	6253	B	1	11.19	36.77	45.75	6.29	0.92	5.44	62.50	0.96	23.89	4.5	6,270	11,286	381	412
			2	....	41.40	51.52	7.08	1.04	4.73	70.38	1.08	15.69	....	7,060	12,708		
			3	....	44.55	55.45	....	1.12	5.09	75.74	1.16	16.89	....	7,598	13,676		
Same (Middle, 4-foot bed)	6252	B	1	12.33	36.73	44.53	6.41	3.03	5.38	61.12	.90	23.16	6.1	6,160	11,088	381	412
			2	....	41.90	50.79	7.31	3.46	4.57	69.71	1.03	13.92	....	7,026	12,647		
			3	....	45.21	54.79	....	3.73	4.93	75.21	1.11	15.02	....	7,580	13,644		
Same, crosscut from level 5, Upper bed, 4½-foot.	6249	B	1	14.99	34.22	45.71	5.08	.54	5.52	60.76	.91	27.19	3.1	6,024	10,843	381	412
			2	....	40.25	53.77	5.98	.64	4.53	71.47	1.07	16.31	....	7,086	12,755		
			3	....	42.81	57.19	....	.68	4.82	76.01	1.14	17.35	....	7,537	13,567		
Same (car sample)	6248	C	1	11.64	35.10	44.02	9.24	1.14	....	....	....	....	4.8	....	....	......	......
			2	....	39.72	49.82	10.46	1.29	....	....	....	....	....	....	....		
			3	....	44.36	55.64	....	1.44	....	....	....	....	....	....	....		
2 miles south of; sec. 5, T. 19 S., R. 70 W., Nonac (No. 5) mine, 2,600 feet east of entrance, working face, 6-foot cut.	6251	B	1	11.08	33.62	49.91	5.39	.93	5.18	63.67	1.04	23.79	4.8	6,347	11,425	381	412
			2	....	37.81	56.13	6.06	1.05	4.44	71.60	1.17	15.68	....	7,138	12,848		
			3	....	40.25	59.75	....	1.12	4.73	76.22	1.25	16.68	....	7,598	13,676		
4 miles south of; sec. 17, T. 19 S., R. 70 W., Diamond mine, level 2, 40½-inch cut.	6250	B	1	23.18	30.34	40.20	6.28	.95	6.15	54.62	.79	31.21	17.2	5,348	9,626	381	413
			2	....	39.49	52.34	8.17	1.24	4.65	71.10	1.03	13.81	....	6,961	12,530		
			3	....	43.00	57.00	....	1.35	5.06	77.43	1.12	15.04	....	7,581	13,646		
3 miles southeast of; sec. 16, T. 19 S., R. 70 W., Littell mine, 100 feet south of foot of shaft, in entry 1 south, 24-inch cut.	6257	B	1	12.98	33.18	46.46	7.38	.63	5.50	61.46	.90	24.13	6.2	6,045	10,881	381	413
			2	....	38.13	53.39	8.48	.72	4.67	70.63	1.03	14.47	....	6,947	12,505		
			3	....	41.66	58.34	....	.79	5.10	77.18	1.13	15.80	....	7,591	13,664		
Chandler, sec. 22, T. 19 S., R. 70 W., Chandler mine, Chandler bed, room 1, Cuckoo entry, 58-inch cut.	6254	B	1	9.89	35.28	48.62	6.21	.43	5.10	64.02	.91	23.33	3.3	6,357	11,443	381	414
			2	....	39.15	53.96	6.89	.48	4.44	71.04	1.01	16.14	....	7,054	12,697		
			3	....	42.05	57.95	....	.52	4.77	76.30	1.08	17.33	....	7,576	13,637		
Radiant, 3 miles south of; sec. 25, T. 20 S., R. 70 W., Brilliant mine, 70½-inch bed (200 feet southwest of foot of shaft, 5-foot cut).	6379	B	1	11.15	34.82	44.15	9.88	.51	5.28	59.94	1.02	23.37	2.9	5,961	10,730	381	414
			2	....	39.19	49.69	11.12	.57	4.55	67.46	1.15	15.15	....	6,709	12,076		
			3	....	44.09	55.91	....	.64	5.12	75.90	1.29	17.05	....	7,548	13,586		
Same (dull top coal, 6½-foot bed)	6378	B	1	9.06	31.72	36.61	22.61	.48	5.09	51.33	.93	19.56	1.9	5,163	9,293	381	414
			2	....	34.88	40.26	24.86	.53	4.49	56.44	1.02	12.66	....	5,677	10,219		
			3	....	46.42	53.58	....	.71	5.98	75.11	1.36	16.84	....	7,556	13,601		
Same (sample of bright shiny layers abundant in bony coal, 6½-foot bed).	6377	B	1	12.98	31.54	53.22	2.26	.73	5.39	65.09	.80	25.73	3.0	6,303	11,345	381	414
			2	....	36.25	61.15	2.60	.84	4.54	74.80	.92	16.30	....	7,243	13,037		
			3	....	37.22	62.78	....	.86	4.66	76.80	.94	16.74	....	7,436	13,385		

Rockvale, sec. 25, T. 19 S., R. 70 W, Rockvale mine, Rockvale bed 1st dip, 4th north entry, 3½-foot cut.	6376	B	1	5.44	38.03	44.43	12.10	.72	5.52	64.05	1.09	16.52	.6	6,600	11,880	381	415
			2	......	40.22	46.98	12.80	.76	5.20	67.73	1.15	12.36	......	6,980	12,564		
			3	......	46.12	53.88	......	.87	5.96	77.67	1.32	14.18	......	8,005	14,409		
Near; sec. 6, T. 20 S., R. 69 W., Bluff Springs (Blazing Rag) mine, Rockvale bed 3½-foot bed, 36-inch cut.	6409	B	1	10.24	32.73	42.74	14.29	.54	5.26	58.09	1.05	20.77	6.5	5,813	10,463	381	415
			2	......	36.45	47.63	15.92	.60	4.59	64.72	1.17	13.00	......	6,476	11,657		
			3	......	43.35	56.65	......	.71	5.46	76.97	1.39	15.47	......	7,702	13,864		
Williamsburg, Magnet mine, Magnet bed (south entry 3, 4,200 feet southwest, 50-inch cut).	10127	B	1	9.16	35.18	47.61	8.05	1.05	......	......	......	......	4.3	......	......	381	416
			2	......	38.73	52.41	8.86	1.16	......	......	......	......	......	......	......		
			3	......	42.49	57.51	......	1.27	......	......	......	......	......	......	......		
Same (south entry 5, 3,200 feet southwest, 48-inch cut).	10128	B	1	9.39	37.24	47.09	6.28	.74	......	......	......	......	4.3	......	......	381	416
			2	......	41.10	51.97	6.93	.82	......	......	......	......	......	......	......		
			3	......	44.16	55.84	......	.88	......	......	......	......	......	......	......		
Same (composite of Nos. 10127 and 10128)....	10142	B	1	9.11	35.71	47.96	7.22	.94	5.63	65.99	1.18	19.04	4.3	6,502	11,704		
			2	......	39.29	52.77	7.94	1.03	5.08	72.60	1.30	12.05	......	7,154	12,877		
			3	......	42.68	57.32	......	1.12	5.52	78.86	1.41	13.09	......	7,771	13,988		
GARFIELD COUNTY.																	
Carbonera, 18 miles northwest of Mack, sec. 11, T. 7 S., R. 104 W., prospect on east side of gulch opposite Uinta mine, lower coal.	3728	B	1	9.32	33.64	49.52	7.52	.51	......	......	......	......	3.0	......	......	316	416
			2	......	37.10	54.61	8.29	.56	......	......	......	......	......	......	......	371	
			3	......	40.45	59.55	......	.61	......	......	......	......	......	......	......		
Sec. 14, T. 7 S., R. 104 W., Uinta mine (entire bed), end of back entry, 83½-inch cut.	3729	B	1	10.96	32.19	42.45	14.40	.48	5.63	58.42	1.24	19.83	4.5	5,815	10,467	316	417
			2	......	36.15	47.68	16.17	.54	4.95	65.61	1.39	11.34	......	6,531	11,756	371	
			3	......	43.13	56.87	......	.64	5.91	78.27	1.66	13.52	......	7,791	14,024		
			4	......	......	......	......	......	5.95	78.78	1.67	13.60	......	7,826	14,087		
Same (between upper and lower coal, near entrance of mine, 83-inch cut).	3732	B	1	10.77	33.68	48.36	7.19	.56	......	......	......	......	3.9	......	......	316	417
			2	......	37.74	54.20	8.06	.63	......	......	......	......	......	......	......	371	
			3	......	41.05	58.95	......	.69	......	......	......	......	......	......	......		
Same (6½-foot cut, room 3).....................	3734	B	1	11.23	31.51	45.31	11.95	.42	......	......	......	......	4.7	......	......	316	417
			2	......	35.50	51.04	13.46	.47	......	......	......	......	......	......	......	371	
			3	......	41.02	58.98	......	.54	......	......	......	......	......	......	......		
10 miles east of; sec. 16, T. 7 S., R. 102 W., prospect south of Turner's ranch, weathered coal bed 21 feet 5 inches.	3730	B	1	18.63	30.61	46.28	4.48	.38	......	......	......	......	9.1	......	......	316	417
			2	......	37.62	56.87	5.51	.47	......	......	......	......	......	......	......	371	
			3	......	39.81	60.19	......	.50	......	......	......	......	......	......	......		
Cardiff, 4 miles southwest of; NE. ¼ SE. ¼ sec. 8, T. 7 S., R. 89 W., Black Diamond mine, Black Diamond bed (3,500 feet from opening).	*9143	B	1	12.20	34.23	48.60	4.97	.48	......	......	......	......	8.9	6,169	11,104	......	417
			2	......	38.99	55.35	5.66	.55	......	......	......	......	......	7,026	12,647		
			3	......	41.33	58.67	......	.58	......	......	......	......	......	7,448	13,406		
Same (800 feet from opening)..................	*9144	B	1	11.38	35.17	51.37	2.08	.55	......	......	......	......	9.6	6,838	12,308	......	417
			2	......	39.69	57.96	2.35	.62	......	......	......	......	......	7,716	13,889		
			3	......	40.65	59.35	......	.63	......	......	......	......	......	7,902	14,224		
Same (upper 9½-foot bench)....................	4040	B	1	10.07	31.82	43.47	14.64	.76	......	......	......	......	5.6	......	......	316	417
			2	......	35.38	48.34	16.28	.85	......	......	......	......	......	......	......		
			3	......	42.26	57.74	......	1.02	......	......	......	......	......	......	......		
Same (entire bed) composite...................	4038	B	1	10.73	33.09	44.50	11.68	.78	......	......	......	......	5.9	......	......	316	417
			2	......	37.07	49.85	13.08	.87	......	......	......	......	......	......	......		
			3	......	42.65	57.35	......	1.00	......	......	......	......	......	......	......		
Same (lower bench)............................	4037	B	1	12.10	34.50	48.46	4.94	.85	......	......	......	......	4.3	......	......	316	417
			2	......	39.25	55.13	5.62	.99	......	......	......	......	......	......	......		
			3	......	41.59	58.41	......	1.05	......	......	......	......	......	......	......		
Same (49 inches of 5-foot bench)..............	4030	B	1	13.10	33.41	46.46	7.03	1.13	......	......	......	......	7.2	......	......	316	417
			2	......	38.44	53.47	8.09	1.30	......	......	......	......	......	......	......		
			3	......	41.82	58.18	......	1.41	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
COLORADO—Continued.																	
GARFIELD COUNTY—continued.																	
Cardiff, Black Diamond mine—Continued.																	
Same (61-inch cut)	4050	B	1	14.11	32.71	43.99	9.19	0.91	5.50	57.97	1.46	24.97	7.6	5,753	10,355	316	417
			2	......	38.08	51.22	10.70	1.06	4.58	67.49	1.70	14.47	......	6,698	12,056		
			3	......	42.65	57.35	......	1.19	5.12	75.58	1.90	16.21	......	7,501	13,502		
			4	......	......	......	......	......	5.19	76.49	1.93	16.39	......	7,564	13,615		
Marion on C. & M. coal spur, SE. ¼ SW. ¼ sec. 10, T. 8 S., R. 89 W., Marion mine (Allen bed, about 200 feet from mouth of entry, 55-inch cut).	9195	B	1	3.81	36.30	55.29	4.60	.40	5.50	73.78	1.64	14.08	1.6	7,450	13,410	......	418
			2	......	37.74	57.48	4.78	.42	5.28	76.70	1.71	11.11	......	7,745	13,941		
			3	......	39.64	60.36	......	.44	5.54	80.55	1.80	11.67	......	8,134	14,641		
Same, Allen bed (900 feet in mine, entry 1, 60-inch cut).	9196	B	1	4.44	36.65	54.61	4.30	.46	5.58	73.85	1.64	14.17	2.6	7,505	13,509	......	418
			2	......	38.35	57.15	4.50	.48	5.33	77.28	1.72	10.69	......	7,854	14,137		
			3	......	40.16	59.84	......	.50	5.58	80.92	1.80	11.20	......	8,224	14,803		
Same, Anderson 4-foot bed, 1,200 feet in mine, north entry, 25 feet from fault, 4-foot cut.	9197	B	1	6.34	34.78	55.96	2.92	.42	5.56	74.31	1.55	15.24	4.3	7,440	13,392	......	418
			2	......	37.13	59.75	3.12	.45	5.19	79.34	1.65	10.25	......	7,944	14,299		
			3	......	38.33	61.67	......	.46	5.36	81.89	1.70	10.59	......	8,200	14,760		
1 mile west of; SW. ¼ SE. ¼ sec. 9, T. 8 S., R. 89 W., Keystone mine, Keystone bed (prospect hole), 3½-foot cut.	*9202	B	1	24.10	28.36	36.23	11.31	.29	......	......	......	......	13.4	4,188	7,538	......	419
			2	......	37.37	47.73	14.90	.38	......	......	......	......	......	5,518	9,932		
			3	......	43.91	56.09	......	.45	......	......	......	......	......	6,484	11,671		
Newcastle, 1 mile southwest of; NE. ¼ sec. 4, T. 6 S., R. 91 W., Keystone mine, Keystone No. 1 bed (600 feet down slope, lowest level, 2-foot bed, 20-inch cut).	3932	B	1	4.16	35.55	54.94	5.35	.42	5.27	73.24	1.44	14.28	1.0	7,290	13,122	316 415	420
			2	......	37.09	57.33	5.58	.44	5.02	76.42	1.50	11.04	......	7,606	13,691		
			3	......	39.29	60.71	......	.46	5.32	80.94	1.59	11.69	......	8,056	14,501		
			4	......	......	......	......	......	5.34	81.31	1.60	11.75	......	8,083	14,549		
Same (600 feet down slope, lowest level, 2-foot bed, 20-inch cut).	3936	B	1	3.68	36.66	52.77	6.89	.44	5.12	71.99	1.39	14.17	.9	7,178	12,920	316 415	420
			2	......	38.06	54.79	7.15	.46	4.89	74.74	1.44	11.32	......	7,452	13,414		
			3	......	40.99	59.01	......	.49	5.27	80.50	1.55	12.19	......	8,026	14,347		
			4	......	......	......	......	......	5.29	80.90	1.56	12.25	......	8,054	14,497		
Same (1,200 feet from opening, Keystone No. 2 bed, 26-inch cut).	8807	B	1	5.3	33.5	52.0	9.22	.42	5.14	68.28	1.25	15.69	2.8	6,860	12,350	......	420
			2	......	35.0	55.3	9.74	.44	4.80	72.10	1.32	11.60	......	7,245	13,040		
			3	......	39.0	61.0	......	.49	5.32	79.88	1.46	12.85	......	8,030	14,450		
¼ mile southeast of; NW. ¼ sec. 2, T. 6 S., R. 91 W., Coryell mine, 1,200 feet from shaft, Allen 14-foot bed.	3938	B	1	3.51	38.38	53.17	4.94	.54	5.10	72.86	1.74	14.82	.8	7,370	13,266	316 415	420
			2	......	39.78	55.10	5.12	.56	4.88	75.51	1.80	12.13	......	7,638	13,748		
			3	......	41.92	58.08	......	.59	5.14	79.58	1.90	12.79	......	8,050	14,490		
			4	......	......	......	......	......	5.18	80.06	1.91	12.85	......	8,085	14,553		
Same (lower 54-inch bench)	3933	B	1	3.51	38.5	53.34	4.65	.52	......	......	......	......	.7	......	......	316 415	420
			2	......	39.9	55.28	4.82	.54	......	......	......	......	......	......	......		
			3	......	41.92	58.08	......	.57	......	......	......	......	......	......	......		

Same (best coal of 5-foot bench)	3937	B	1	4.00	38.41	53.74	3.85	.51	......	......	......	......	1.2	......	......	316	420
			2	......	40.01	55.98	4.01	.53	......	......	......	......	......	......	......	415	
			3	......	41.68	58.32	......	.55	......	......	......	......	......	......	......		
Same (upper 9 feet)	3935	B	1	4.04	37.66	52.56	5.74	.53	......	......	......	......	1.1	......	......	316	420
			2	......	39.25	54.77	5.98	.55	......	......	......	......	......	......	......	415	
			3	......	41.75	58.25	......	.58	......	......	......	......	......	......	......		
Same (entire bed)	3939	B	1	4.06	38.20	52.71	5.03	.51	5.24	72.98	1.71	14.53	1.2	7,352	13,234	316	420
			2	......	39.82	54.94	5.24	.53	4.99	76.07	1.78	11.39	......	7,663	13,793	415	
			3	......	42.02	57.98	......	.56	5.27	80.28	1.88	12.01	......	8,087	14,557		
			4	......	......	......	......	......	5.29	80.73	1.89	12.09	......	8,121	14,618		
Same (10-foot cut from face)	8806	B	1	4.4	35.0	52.7	7.89	.41	5.54	70.27	1.50	14.39	1.9	7,005	12,610	......	420
			2	......	36.5	55.2	8.25	.43	5.28	73.51	1.57	10.96	......	7,330	13,190		
			3	......	40.0	60.0	......	.47	5.75	80.12	1.71	11.95	......	7,990	14,380		
Same (collected from mine cars)	8810	C	1	4.8	33.0	54.1	8.1	.45	......	......	......	......	2.0	6,700	12,060	......	......
			2	......	35.0	56.5	8.5	.47	......	......	......	......	......	7,035	12,670		
			3	......	38.0	62.0	......	.50	......	......	......	......	......	7,690	13,840		
3¾ miles southeast of; NW. ¼ sec. 8, T. 6 S., R. 90 W., Coal Ridge mine (not working) 50 feet in, C bed, 5-foot cut.	8804	B	1	25.1	30.5	40.2	4.2	.30	......	......	......	......	17.4	4,430	7,970	......	421
			2	......	41.0	53.3	5.7	.40	......	......	......	......	......	5,915	10,650		
			3	......	43.5	56.5	......	.45	......	......	......	......	......	6,270	11,280		
Rifle Creek, sec. 12, T. 5 S., R. 93 W., McLearn mine, north of Grand River, 1,000 feet from shaft, lowest thick bed (7½-foot cut).	3943	B	1	6.32	36.9	50.84	5.94	1.12	5.48	68.72	1.57	17.17	2.1	6,903	12,425	316	421
			2	......	39.39	54.27	6.34	1.20	5.10	73.36	1.68	12.32	......	7,369	13,264		
			3	......	42.06	57.94	......	1.28	5.45	78.32	1.79	13.16	......	7,867	14,161		
			4	......	......	......	......	......	5.52	79.34	1.81	13.33	......	7,940	14,292		
Same (best coal, 5¾-foot cut)	3946	B	1	7.21	36.09	51.39	5.31	.69	5.50	68.21	1.58	18.71	3.1	6,856	12,341	316	421
			2	......	38.89	55.39	5.72	.74	5.07	73.51	1.70	13.26	......	7,389	13,300		
			3	......	41.25	58.75	......	.79	5.37	77.97	1.81	14.06	......	7,837	14,107		
			4	......	......	......	......	......	5.42	78.59	1.82	14.17	......	7,881	14,186		
South Cañon, NW. ¼ sec. 14, T. 6 S., R. 90 W., South Cañon mine (2,000 feet in, D bed, 4¾-foot cut).	3961	B	1	7.44	36.18	53.90	2.48	.47	5.36	69.73	1.65	20.31	3.1	7,047	12,685	316	421
			2	......	39.09	58.23	2.68	.51	4.89	75.34	1.78	14.80	......	7,613	13,703	415	
			3	......	40.16	59.84	......	.52	5.03	77.41	1.83	15.21	......	7,823	14,081		
			4	......	......	......	......	......	5.06	77.81	1.84	15.29	......	7,852	14,134		
Same (2,400 feet in, entry 2, Wheeler 14-foot bed, 9-foot cut).	8808	B	1	6.8	32.5	51.2	9.5	.35	......	......	......	......	2.9	6,515	11,730	......	421
			2	......	35.0	54.9	10.1	.35	......	......	......	......	......	7,000	12,590		
			3	......	39.0	61.0	......	.40	......	......	......	......	......	7,785	14,010		
Same (2,650 feet from mine entrance Wheeler bed, 12¾-foot cut).	3959	B	1	6.55	36.63	47.89	8.93	.48	......	......	......	......	2.2	......	......	316	421
			2	......	39.20	51.24	9.56	.51	......	......	......	......	......	......	......	415	
			3	......	43.34	56.66	......	.56	......	......	......	......	......	......	......		
Same (2,250 feet from mine entrance, Wheeler bed, 15¾-foot cut).	3960	B	1	5.51	35.89	48.76	9.84	.29	5.27	65.66	1.36	17.58	1.7	6,606	11,891	316	421
			2	......	37.98	51.61	10.41	.31	4.93	69.49	1.44	13.42	......	6,991	12,584	415	
			3	......	42.40	57.60	......	.34	5.50	77.56	1.61	14.99	......	7,804	14,047		
			4	......	......	......	......	......	5.52	77.83	1.61	15.04	......	7,822	14,080		
Same (250 feet in mine, Allen bed, 5½-foot cut).	8811	B	1	10.7	31.5	52.0	5.8	.40	......	......	......	......	6.0	6,495	11,690	......	421
			2	......	35.5	58.1	6.4	.45	......	......	......	......	......	7,275	13,090		
			3	......	38.0	62.0	......	.50	......	......	......	......	......	7,775	13,790		
Same (2,200 feet in mine, entry 3, D bed, 4½-foot cut).	8812	B	1	8.6	32.5	51.0	7.9	.60	......	......	......	......	4.1	6,520	11,740	......	421
			2	......	35.5	55.9	8.6	.65	......	......	......	......	......	7,130	12,840		
			3	......	38.5	61.5	......	.70	......	......	......	......	......	7,805	14,050		
Same (400 feet in mine, entry 1, E bed, 3-foot cut).	8805	B	1	6.5	34.5	54.3	4.7	.50	......	......	......	......	2.9	6,880	12,390	......	421
			2	......	37.0	58.0	5.0	.55	......	......	......	......	......	7,360	13,240		
			3	......	39.0	61.0	......	.55	......	......	......	......	......	7,745	13,940		
3 miles south of station, sec. 23, T. 6 S., R. 90 W., mine of Martin Ohkraut (150 feet in, Keystone No. 2 bed, 3½-foot cut).	8809	B	1	10.3	29.0	52.6	8.1	.25	......	......	......	......	4.2	6,120	11,020	......	422
			2	......	32.0	58.9	9.1	.30	......	......	......	......	......	6,825	12,280		
			3	......	35.5	64.5	......	.35	......	......	......	......	......	7,500	13,500		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
COLORADO—Continued.																	
GARFIELD COUNTY—continued.																	
Sunlight, 15 miles south of Glenwood Springs, sec. 33, T. 7 S., R. 89 W., Sunlight mine (3,000 feet in, A bed, 7½-foot cut).	4032	B	1	5.50	24.68	58.64	11.18	0.69	......	......	......	......	2.8	......	......	316	423
			2	......	26.12	62.05	11.83	.73	......	......	......	......	......	......	......	415	
			3	......	29.63	70.37	......	.83	......	......	......	......	......	......	......		
Same (3,500 feet in, A bed, 10½-foot cut)	4034	B	1	5.32	36.29	49.60	8.79	.76	5.26	67.76	1.58	15.85	3.0	6,902	12,424	316	423
			2	......	38.33	52.39	9.28	.80	4.93	71.57	1.67	11.75	......	7,290	13,122	415	
			3	......	42.25	57.75	......	.88	5.44	78.89	1.84	12.95	......	8,036	14,465		
			4	......	......	......	......	......	5.49	79.60	1.86	13.06	......	8,086	14,555		
Same (1,100 feet in, B bed, 6-foot cut, weathered).	4046	B	1	6.93	35.55	52.73	4.79	.67	......	......	......	......	3.8	......	......	316	423
			2	......	38.20	56.65	5.15	.72	......	......	......	......	......	......	......	415	
			3	......	40.27	59.73	......	.76	......	......	......	......	......	......	......		
Same (1,100 feet in, C bed, 6-foot cut)	4045	B	1	5.65	36.29	52.89	5.17	.82	......	......	......	......	2.6	......	......	316	423
			2	......	38.46	56.06	5.48	.87	......	......	......	......	......	......	......	415	
			3	......	40.69	59.31	......	.92	......	......	......	......	......	......	......		
Same (2,500 feet in, D 9-foot bed, 7½-foot cut)	4033	B	1	5.19	47.77	43.21	3.83	.79	......	......	......	......	2.0	......	......	316	423
			2	......	50.38	45.58	4.04	.83	......	......	......	......	......	......	......	415	
			3	......	52.50	47.50	......	.86	......	......	......	......	......	......	......		
Same (3,300 feet in, D 99½-inch bed, 77½-inch cut).	4048	B	1	6.49	37.23	53.38	2.90	.93	5.56	71.51	1.79	17.31	3.5	7,299	13,138	316	423
			2	......	39.81	57.09	3.10	.99	5.18	76.47	1.91	12.35	......	7,806	14,051	415	
			3	......	41.09	58.91	......	1.03	5.34	78.92	1.98	12.73	......	8,055	14,499		
			4	......	......	......	......	......	5.40	79.74	2.00	12.86	......	8,115	14,607		
1 mile north of; NW. ¼ NE. ¼ sec. 28, T. 7 S., R. 89 W., Mascot mine (upper A bed, 66-inch cut).	9200	B	1	8.70	35.72	50.74	4.84	.62	......	......	......	......	3.9	6,580	11,844	......	423
			2	......	39.12	55.58	5.30	.68	......	......	......	......	......	7,207	12,973		
			3	......	41.31	58.69	......	.72	......	......	......	......	......	7,611	13,700		
Same (lower A bed, 86-inch cut)	9201	B	1	8.89	33.11	41.83	16.17	2.08	......	......	......	......	4.3	5,642	10,156	......	423
			2	......	36.34	45.91	17.75	2.28	......	......	......	......	......	6,193	11,147		
			3	......	44.18	55.82	......	2.77	......	......	......	......	......	7,529	13,552		
NE. ¼ SW. ¼ sec. 34, T. 7 S., R. 89 W., Midland mine (1,100 feet in, B bed, 6-foot cut).	9192	B	1	7.69	36.48	48.75	7.08	.78	5.50	67.16	1.46	18.02	4.8	6,720	12,096	......	424
			2	......	39.52	52.81	7.67	.84	5.04	72.75	1.58	12.12	......	7,280	13,104		
			3	......	42.80	57.20	......	.91	5.46	78.80	1.71	13.12	......	7,885	14,193		
Same (A bed, 6-foot cut)	9193	B	1	7.40	34.81	49.19	8.60	.67	......	......	......	......	5.0	6,720	12,096	......	424
			2	......	37.59	53.12	9.29	.72	......	......	......	......	......	7,257	13,063		
			3	......	41.44	58.56	......	.79	......	......	......	......	......	8,000	14,400		
Same (south 1,100 feet, west about 20 feet, C bed, 6-foot cut).	9191	B	1	6.93	36.19	51.96	4.92	1.06	5.47	69.04	1.44	18.07	3.3	6,812	12,262	......	424
			2	......	38.89	55.83	5.28	1.14	5.07	74.18	1.55	12.78	......	7,319	13,174		

			3	....	41.06	58.94	....	1.20	5.35	78.32	1.64	13.49	....	7,727	13,909		
Same (D bed, 6-foot cut).......................	9194	B	1	5.25	38.02	53.69	3.04	.86	....	....	....	....	2.1	7,327	13,189	......	424
			2	....	40.13	56.66	3.21	.91	....	....	....	....	....	7,733	13,919		
			3	....	41.46	58.54	....	.94	....	....	....	....	....	7,990	14,382		
1 mile north of; Pocahontas mine (A bed, 16-foot, upper bench, 6½-foot cut).	4035	B	1	6.06	36.13	47.78	10.03	.77	....	....	....	....	3.0	....	....	415	425
			2	....	38.46	50.87	10.67	.82	....	....	....	....	....	....	....		
			3	....	43.05	56.95	....	.92	....	....	....	....	....	....	....		
Same (2,200 feet in, C bed, 7½-foot cut).........	4031	B	1	6.36	38.18	51.92	3.54	.80	....	....	....	....	2.9	....	....	415	425
			2	....	40.77	55.45	3.78	.85	....	....	....	....	....	....	....		
			3	....	42.37	57.63	....	.88	....	....	....	....	....	....	....		
Same (D bed, 9½-foot cut)......................	4036	B	1	6.10	38.47	53.53	1.90	.52	5.60	72.18	1.74	18.06	2.0	7,316	13,169	415	425
			2	....	40.97	57.01	2.02	.55	5.24	76.87	1.85	13.47	....	7,792	14,026		
			3	....	41.82	58.18	....	.57	5.35	78.46	1.89	13.73	....	7,852	14,134		
			4	....	....	....	....	....	5.38	78.90	1.90	13.82	....	7,884	14,191		
Same (D bed, upper bench, 7½-foot cut)........	4039	B	1	5.90	38.24	52.67	3.19	.58	....	....	....	....	2.4	....	....	415	425
			2	....	40.64	55.97	3.39	.62	....	....	....	....	....	....	....		
			3	....	42.07	57.93	....	.64	....	....	....	....	....	....	....		
GUNNISON COUNTY.																	
Baldwin, Mount Carbon mine[a], No. 2 bed (north entry 6, 2,500 feet from opening, 77-inch cut).	10092	B	1	11.32	36.64	45.57	6.47	1.93	5.80	63.62	1.44	21.74	5.7	6,369	11,464	......	429
			2	....	41.32	51.38	7.30	1.05	5.12	71.74	1.62	13.17	....	7,181	12,926		
			3	....	44.57	55.43	....	.13	5.52	77.39	1.75	14.21	....	7,746	13,943		
Crested Butte, sec. 3, T. 14 S., R. 86 W., Crested Butte mine, No. 3, 11-foot bed (½ mile south of mine mouth, 73-inch cut).	7983	B	1	2.98	33.62	56.16	7.24	.39	5.39	74.46	1.52	11.00	1.4	7,460	13,428	......	425
			2	....	34.65	57.89	7.46	.40	5.22	76.75	1.57	8.60	....	7,689	13,840		
			3	....	37.44	62.56	....	.43	5.64	82.94	1.70	9.29	....	8,309	14,956		
Same (½ mile south of mine mouth, 59-inch cut).	7982	B	1	2.46	34.43	59.60	3.51	.41	5.55	78.36	1.59	10.58	1.0	7,784	14,011	......	425
			2	....	35.30	61.10	3.60	.42	5.41	80.33	1.63	8.61	....	7,980	14,364		
			3	....	36.62	63.38	....	.44	5.61	83.33	1.69	8.93	....	8,278	14,900		
Same (near surface, weathered).................	8655	B	1	3.8	26.5	61.8	7.93	.38	5.16	74.62	1.40	10.51	2.2	7,365	13,260	......	425
			2	....	28.0	63.8	8.24	.40	4.93	77.57	1.46	7.40	....	7,660	13,780		
			3	....	30.5	69.5	....	.44	5.37	84.52	1.59	8.08	....	8,345	15,020		
¾ mile southwest of; NW. ¼ NW. ¼ sec. 11, T. 14 S., R. 86 W., Porter mine, No. 3 bed, between south entries 2 and 3, 153-inch cut.	7981	B	1	3.91	36.08	54.94	5.07	.40	5.51	74.09	1.47	13.46	2.1	7,327	13,189	......	426
			2	....	37.55	57.17	5.28	.42	5.29	77.10	1.53	10.38	....	7,625	13,725		
			3	....	39.64	60.36	....	.44	5.58	81.39	1.62	10.97	....	8,050	14,490		
1 mile north of; sec. 28, T. 13 S., R. 86 W., Silver Brook mine (highest bed worked, cross entry 2, room 1 north, 37-inch cut).	7979	B	1	2.7	3.32	88.15	5.83	.80	3.28	85.38	1.12	3.59	1.7	7,833	14,099	......	427
			2	....	3.41	90.60	5.99	.82	3.06	87.75	1.15	1.23	....	8,050	14,490		
			3	....	3.63	96.37	....	.87	3.25	93.34	1.22	1.32	....	8,563	15,413		
Same (No. 1 bed, 400 feet north of shaft, 27-inch cut).	7978	B	1	3.25	3.65	87.72	5.38	.94	3.50	84.53	1.53	4.12	2.2	7,795	14.031	......	427
			2	....	3.77	90.67	5.56	.97	3.25	87.37	1.58	1.27	....	8,057	14,503		
			3	....	3.99	96.01	....	1.03	3.44	92.52	1.67	1.34	....	8,531	15,356		
1 mile southeast of; NW. ¼ NW. ¼ sec. 11, T. 14 S., R. 86 W., Bulkley mine, No. 3 bed, 50-inch cut.	7980	B	1	5.52	34.64	56.39	3.45	.41	....	....	....	....	3.1	7,361	13,250	......	427
			2	....	36.66	59.69	3.65	.43	....	....	....	....	....	7,791	14,024		
			3	....	38.05	61.95	....	.45	....	....	....	....	....	8,086	14,555		
Same (100 feet south of opening, 77-inch cut)...	9139	B	1	9.39	33.69	52.13	4.79	.40	5.45	68.74	1.32	19.30	7.6	6,775	12,195	......	427
			2	....	37.18	57.53	5.29	.44	4.87	75.86	1.46	12.08	....	7,476	13,457		
			3	....	39.25	60.75	....	.46	5.14	80.10	1.54	12.76	....	7,894	14,209		
2 miles southwest of; sec. 14, T. 14 S., R. 86 W., No. 1 bed, 6½-foot cut.	7977	B	1	10.18	29.66	56.69	3.47	.41	....	....	....	....	6.0	6,701	12,062	......	428
			2	....	33.02	63.12	3.86	.46	....	....	....	....	....	7,460	13,428		
			3	....	34.34	65.66	....	.48	....	....	....	....	....	7,759	13,966		
5 miles southeast of; sec. 36, T. 14 S., R. 86 W., Robinson anthracite mine, 300 feet in, No. 2, 71-inch bed.	8246	B	1	4.86	6.96	81.87	6.31	.81	3.97	79.66	1.93	7.32	3.0	7,482	13,468	341	428
			2	....	7.32	86.05	6.63	.85	3.61	83.73	2.03	3.15	....	7,864	14,155		
			3	....	7.84	92.16	....	.91	3.87	89.67	2.17	3.38	....	8,422	15,160		

[a] Same as Alpine mine at Mt. Carbon. See analysis No. 8618, p. 64.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
COLORADO—Continued.																	
GUNNISON COUNTY—continued.																	
Floresta, sec. 16, T. 14 S., R. 87 W., Ruby anthracite mine, entry 5, 53-inch cut.	8120	B	1	3.0	3.0	86.5	7.5	0.69	2.67	83.20	1.48	4.48	1.1	7,498	13,500	......	428
			2	......	3.0	89.3	7.7	71	2.40	85.79	1.53	1.86	......	7,730	13,920		
			3	......	3.5	96.5	......	.77	2.60	92.95	1.66	2.02	......	8,375	15,080		
Mount Carbon, sec. 7, T. 15 S., R. 86 W., Alpine mine, room 20, seventh main entry, No. 2 bed, 6 feet 10½ inches.	8618	B	1	10.03	32.14	53.17	4.66	.87	5.59	67.62	1.22	20.04	4.4	6,656	11,981	341	429
			2	......	35.72	59.10	5.18	.97	4.98	75.16	1.36	12.35	......	7,398	13,316		
			3	......	37.67	62.33	......	1.02	5.25	79.26	1.43	13.04	......	7,802	14,044		
½ mile southwest of; sec. 18, T. 15 S., R. 86 W., La Plant mine, 400 feet west of bottom of shaft, 61-inch bed, 40-inch cut.	8619	B	1	12.8	34.0	46.5	6.66	1.15	5.86	62.21	1.46	22.66	6.5	6,260	11,270	341	429
			2	......	38.5	53.9	7.64	1.32	5.09	71.32	1.67	12.96	......	7,180	12,920		
			3	......	42.0	58.0	......	1.43	5.51	77.21	1.81	14.04	......	7,770	13,990		
2 miles east of; sec. 31, T. 15 S., R. 86 W., 50 feet from mouth of opening, 8-foot bed.	8620	B	1	18.71	29.9	45.65	5.74	.38	......	......	......	......	9.6	5,478	9,860	341	429
			2	......	36.78	56.16	7.06	.47	......	......	......	......	......	6,739	12,130		
			3	......	39.58	60.42	......	.51	......	......	......	......	......	7,251	13,052		
About 3 miles east of; sec. 15, T. 15 S., R. 86 W., deserted mine, 275 feet N. 50° W. of mouth, 5¾-foot cut.	8616	B	1	10.1	33.5	51.1	5.3	.50	......	......	......	......	4.3	6,615	11,910	341	430
			2	......	37.5	56.6	5.9	.55	......	......	......	......	......	7,355	13,240		
			3	......	39.5	60.5	......	.55	......	......	......	......	......	7,815	14,070		
3 miles northeast of; sec. 4, T. 15 S., R. 86 W., Kubler mine (end of main entry, No. 2 bed, 6 feet 11½ inches, 5¼-foot cut.	8617	B	1	10.4	32.5	53.5	3.60	.39	5.69	68.30	1.32	20.70	5.3	6,775	12,200	341	430
			2	......	36.0	60.0	4.02	.44	5.06	76.23	1.47	12.77	......	7,565	13,620		
			3	......	37.5	62.5	......	.46	5.27	79.43	1.53	13.31	......	7,880	14.190		
Same (north entry 2, 950 feet from opening)..	10091	B	1	10.65	34.94	45.91	8.50	.44	5.57	64.72	1.27	19.50	5.9	6,332	11,398	......	430
			2	......	39.10	51.39	9.51	.49	4.91	72.43	1.42	11.24	......	7,087	12,757		
			3	......	43.21	56.79	......	.54	5.43	80.04	1.57	12.42	......	7,832	14,098		
Somerset, 1 mile east of; sec. 11, T. 13 S., R. 90 W., Sylvester prospect in north bank of Gunnison River, 70 feet in, 70-inch cut.	5406	B	1	5.49	35.65	55.79	3.07	.60	5.76	73.22	1.22	16.13	2.0	7,373	13,217	341	431
			2	......	37.72	59.03	3.25	.63	5.45	77.47	1.29	11.91	......	7,770	13,986		
			3	......	38.98	61.01	......	.65	5.63	80.07	1.33	12.32	......	8,031	14,456		
2 miles east of; sec. 11, T. 13 S., R. 90 W., Hawks Nest prospect, 100 feet in, upper 5 feet of 7+-foot bed.	5405	B	1	5.96	23.92	66.95	3.17	.47	5.68	74.08	1.36	15.24	2.7	7,358	13,244	341	431
			2	......	25.44	71.19	3.37	.50	5.34	78.77	1.45	10.57	......	7,824	14,083		
			3	......	26.32	73.68	......	.52	5.53	81.52	1.50	10.93	......	8,097	14,575		
4 miles south of; 9 miles east of Paonia, sec. 32, T. 13 S., R. 90 W., Shoecroft (Porter claims) prospect, 25 feet in, 7-foot cut.	5807	B	1	21.44	29.13	44.75	4.68	.33	......	......	......	......	9.8	4,372	7,870	341	431
			2	......	37.08	56.97	5.95	.42	......	......	......	......	......	5,565	10,017		
			3	......	39.43	60.57	......	.45	......	......	......	......	......	5,918	10,652		
7 miles south of; 12 miles east of Paonia, sec. 22, T. 14 S., R. 90 W., Simonton (Porter claims) prospect, 25 feet in, 7 feet of 64½-foot bed.	5529	B	1	19.23	31.04	44.35	5.38	.31	......	......	......	......	10.1	4,871	8,768	341	432
			2	......	38.43	54.91	6.66	.38	......	......	......	......	......	6,031	10,856		
			3	......	41.17	58.83	......	.41	......	......	......	......	......	6,462	11,632		

9 miles southeast of; sec. 3, T. 14 S., R. 89 W., Porter prospect south of Mount Gunnison, 5½-foot cut.	5528	B	1	4.22	3.98	76.02	15.78	.88	....	....	....	....	3.2	6,815	12,267	341	432
			2	....	4.16	79.36	16.48	.92	....	....	....	....	....	7,115	12,807		
			3	....	4.97	95.03	....	1.10	....	....	....	....	....	8,519	15,334		
9½ miles southeast of; sec. 10, T. 14 S., R. 89 W., Mosely mine, 60 feet in, 10+-foot bed, 7-foot cut.	5344	B	1	8.94	34.23	52.04	4.79	.57	5.41	68.76	1.41	19.06	1.7	6,837	12,307	341	433
			2	....	37.59	57.16	5.25	.63	4.85	75.51	1.55	12.21	....	7,508	13,514		
			3	....	39.67	60.33	....	.66	5.12	79.69	1.64	12.89	....	7,924	14,263		
14 miles southeast of; sec. 27, T. 14 S., R. 89 W., No. 5 bed, 25 feet from surface, 5-foot cut.	9142	B	1	6.08	36.79	52.87	4.26	1.02	....	....	....	....	3.1	6,758	12,165	341	433
			2	....	39.17	56.29	4.54	1.09	....	....	....	....	....	7,195	12,951		
			3	....	41.03	58.97	....	1.14	....	....	....	....	....	7,537	13,567		
Same (No. 2 bed, surface opening, weathered, 7 foot 1 inch bed, 5¾-foot cut).	8800	B	1	4.36	23.17	68.12	4.35	.62	....	....	....	....	2.3	7,583	13,649	341	433
			2	....	24.23	71.22	4.55	.65	....	....	....	....	....	7,929	14,272		
			3	....	25.39	74.61	....	.68	....	....	....	....	....	8,307	14,953		
15 miles southeast of; sec. 34, T. 14 S., R. 89 W., surface opening, weathered, 28-inch cut.	9140	B	1	9.38	34.74	51.95	3.93	.53	....	....	....	....	6.5	6,710	12,078	341	434
			2	....	38.34	57.32	4.34	.58	....	....	....	....	....	7,404	13,327		
			3	....	40.08	59.92	....	.61	....	....	....	....	....	7,739	13,930		
About 16 miles southeast of; sec. 9, T. 15 S., R. 89 W., upper Coal Creek canyon, Mosely's prospect, No. 6, 8-foot 8-inch bed, 6¾-foot cut.	9141	B	1	3.3	14.0	77.6	5.1	.70	....	....	....	....	2.5	7,775	13,990	341	434
			2	....	14.0	80.7	5.3	.75	....	....	....	....	....	8,035	14,460		
			3	....	15.0	85.0	....	.80	....	....	....	....	....	8,484	15,270		
HUERFANO COUNTY.																	
La Veta, 6 miles northwest of; NW. ¼, SW. ¼ sec. 10, T. 29 S., R. 69 W. (face of entry 3 south, 88-inch cut).	6608	B	1	6.47	35.18	47.48	10.87	.56	5.30	65.66	1.01	16.60	3.4	6,472	11,650	381	435
			2	....	37.61	50.77	11.62	.60	4.90	70.20	1.08	11.60	....	6,920	12,456		
			3	....	42.56	57,44	....	.68	5.54	79.43	1.22	13.13	....	7,830	14,094		
McGuire, 9 miles from Walsenburg; sec. 23, T. 27 S., R. 67 W., Pinon mine, south entry 4, 1,700 feet from portal, Cameron bed, 6-foot 8-inch cut.	10189	A[a]	1	6.92	36.98	48.52	7.58	.56	....	....	....	....	2.2	6,661	11,990	......	435
			2	....	39.73	52.13	8.14	.60	....	....	....	....	....	7,156	12,881		
			3	....	43.25	56.75	....	.65	....	....	....	....	....	7,790	14,022		
Same (south entry 1, 1,400 feet from portal 4-foot 9-inch cut).	10190	A[a]	1	6.86	37.67	43.85	11.62	.90	....	....	....	....	2.7	6,395	11,511	......	435
			2	....	40.45	47.08	12.47	.97	....	....	....	....	....	6,866	12,359		
			3	....	46.21	53.79	....	1.11	....	....	....	....	....	7,844	14,119		
Pryor, NE. ¼ sec. 24, T. 29 S., R. 66 W., Pryor mine (north entry 3, Cameron bed, 47½-inch cut).	6540	B	1	3.39	35.61	51.36	9.64	.75	5.24	70.96	1.23	12.18	1.9	7,108	12,794	381	435
			2	....	36.86	53.16	9.98	.78	5.03	73.44	1.27	9.50	....	7,357	13,244		
			3	....	40.95	59.05	....	.87	5.59	81.58	1.41	10.55	....	8,173	14,711		
Same (south entry 2, 150 feet from bottom of slope, Pryor middle 67½-inch bed, 56-inch cut).	6541	B	1	3.61	34.53	50.28	11.58	.57	5.32	69.84	1.05	11.64	2.2	6,886	12,395	381	435
			2	....	35.82	52.17	12.01	.59	5.10	72.46	1.09	8.75	....	7,144	12,860		
			3	....	40.71	59.29	....	.67	5.80	82.35	1.24	9.94	....	8,119	14,614		
Rouse, Walsen mine (east entry 4, Rouse bed, 15 feet from dike, 63-inch cut).	6529	B	1	4.06	34.48	52.84	8.62	.65	5.34	71.18	1.24	12.97	2.4	7,160	12,888	381	436
			2	....	35.94	55.08	8.98	.68	5.10	74.19	1.29	9.76	....	7,463	13,433		
			3	....	39.49	60.51	....	.75	5.60	81.51	1.42	10.72	....	8,200	14,760		
Same (east entry 8, near base of main slope, 69½-inch cut).	6532	B	1	4.09	33.98	50.09	11.84	.67	5.09	70.34	1.09	10.97	2.8	6,887	12,397	381	436
			2	....	35.43	52.23	12.34	.70	4.84	73.34	1.14	7.64	....	7,180	12,924		
			3	....	40.42	59.58	....	.80	5.52	83.67	1.30	8.71	....	8,191	14,744		
Same (east entry 4, main slope, 1 foot from natural coke, 2½ feet from dike).	6531	B	1	3.86	35.34	53.28	7.52	.64	5.48	72.66	1.17	12.53	2.6	7,260	13,068	......	436
			2	....	36.76	55.42	7.82	.67	5.25	75.57	1.22	9.47	....	7,551	13,592		
			3	....	39.88	60.12	....	.73	5.70	81.98	1.32	10.27	....	8,191	14,744		
Same (east entry 4, close to small dike and natural coke, 51-inch cut).	6535	B	1	13.42	5.83	61.50	19.25	.48	3.39	61.55	.81	14.52	11.6	5,497	9,895	......	436
			2	....	6.73	71.04	22.23	.55	2.19	71.09	.94	3.00	....	6,349	11,428		
			3	....	8.65	91.35	....	.71	2.82	91.41	1.21	3.85	....	8,164	14,695		

[a] Sample taken according to standard method of Bureau of Mines but not by Bureau of Mines or United States Geological Survey.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
COLORADO—Continued.																	
HUERFANO COUNTY—continued.																	
Shumway, Pinon No. 3 mine, Lower bed (560 feet southwest of shaft, 61-inch cut).	222D	A	1	5.28	36.40	46.29	12.03	1.21	......	......	......	......	1.1	6,505	11,709	368	437
			2	......	38.43	48.87	12.70	1.28	......	......	......	......	......	6,868	12,362	381	
			3	......	44.02	55.98	......	1.47	......	......	......	......	......	7,867	14,161		
Same (500 feet northwest of shaft, 63½-inch cut).	223D	A	1	5.60	37.15	45.68	11.57	.79	......	......	......	......	.7	......	......	368	437
			2	......	39.35	48.39	12.26	.84	......	......	......	......	......	......	......	381	
			3	......	44.85	55.15	......	.96	......	......	......	......	......	......	......		
Same (nut coal, 33 tons)	240D	C	1	6.05	35.45	39.64	18.86	1.04	4.92	58.30	0.98	15.90	1.8	5,862	10,552	368	......
			2	......	37.73	42.19	20.08	1.11	4.52	62.05	1.04	11.20	......	6,239	11,232		
			3	......	47.21	52.79	......	1.38	5.66	77.64	1.31	14.01	......	7,806	14,051		
Strong, SW. ¼ NW. ¼ sec. 9, T. 27 S., R. 67 W., Sunnyside mine, main slope (86-inch bed, 85-inch cut).	6551	B	1	10.20	34.31	43.84	11.65	.58	5.63	61.75	1.00	19.39	7.0	6,035	10,863	381	437
			2	......	38.21	48.82	12.97	.66	5.01	68.76	1.11	11.49	......	6,721	12,098		
			3	......	43.90	56.10	......	.76	5.76	79.01	1.28	13.19	......	7,722	13,900		
Walsenburg, 1 mile west of; NE. ¼ NW. ¼ sec. 17, T. 28 S., R. 66 W., Robinson mine, Robinson bed (cross entry 8, off north entry 8, 7-foot bed).	6547	B	1	6.90	34.94	49.70	8.46	.53	5.45	69.15	1.02	15.39	4.4	6,710	12,078	381	438
			2	......	37.53	53.38	9.09	.57	5.03	74.27	1.10	9.94	......	7,207	12,973		
			3	......	41.28	58.72	......	.63	5.53	81.69	1.21	10.94	......	7,927	14,269		
JEFFERSON COUNTY.																	
Golden, 5 miles north of; sec. 33, T. 2 S., R. 70 W., St. James (Ralston Creek) mine (2-foot bed).	6372	B	1	18.57	35.47	40.29	5.67	.57	5.76	53.15	.95	33.90	9.5	5,217	9,391	381	438
			2	......	43.56	49.48	6.96	.70	4.54	65.27	1.17	21.36	......	6,406	11,531		
			3	......	46.82	53.18	......	.76	4.88	70.15	1.26	22.95	......	6,885	12,393		
Morrison, 2 miles north of; sec. 23, T. 4 S., R. 70 W., Morrison mine, 15-foot bed (50 feet north of shaft, 73-foot level, 14⅓-foot cut).	6593	B	1	23.52	34.09	34.97	7.42	.80	6.02	49.26	.60	35.90	14.8	4,681	8,426	381	438
			2	......	44.57	45.73	9.70	1.05	4.46	64.41	.78	19.60	......	6,120	11,016		
			3	......	49.36	50.64	......	1.16	4.94	71.33	.86	21.71	......	6,778	12,200		
Same (bottom of shaft, 120-foot level, 45-inch cut).	6594	B	1	23.23	34.06	36.94	5.77	.64	......	......	......	......	15.4	......	......	381	438
			2	......	44.37	48.11	7.52	.83	......	......	......	......	......	......	......		
			3	......	47.98	52.02	......	.90	......	......	......	......	......	......	......		
LA PLATA COUNTY.																	
Bayfield, 10 miles from, at head of Beaver Creek, T. 35 N., R. 6 W., Wheeler mine, near Nelson ranch, 50 feet from opening, 37½-inch cut.	2094	B	1	4.79	35.04	45.45	14.72	.77	......	......	......	......	2.2	......	......	341	439
			2	......	36.80	47.74	15.46	.81	......	......	......	......	......	......	......		
			3	......	43.53	56.47	......	.96	......	......	......	......	......	......	......		

Durango, 14 miles southwest of; sec. 36, T. 35 N., R. 12 W., prospect, Upper Cretaceous age, 5-foot cut.	3994	B	1	2.87	35.60	54.37	7.16	2.29					1.0			316	439
			2		36.65	55.98	7.37	2.36									
			3		39.57	60.43		2.55									
1 mile east of; Gold King Consolidated mine, east entry on south side of main drift, 29-inch cut.	4174	B	1	2.70	32.75	59.82	4.73	.69					1.7			316	439
			2		33.66	61.48	4.86	.71									
			3		35.38	64.62		.75									
1½ miles from; Gold Prince mine, coal dry, 42-inch cut.	4113	B	1	1.41	33.27	55.97	9.35	.58					.4			316	440
			2		33.75	56.77	9.48	.59									
			3		37.28	62.72		.65									
3 miles southeast of; abandoned La Plata mine, upper drift, weathered, about 8-foot cut.	3551	B	1	3.05	32.70	47.47	16.78	1.30	4.73	64.21	1.43	11.55	.9	6,611	11,900	316	440
			2		33.73	48.96	17.31	1.34	4.53	66.23	1.48	9.11		6,819	12,274	341	
			3		40.79	59.21		1.62	5.48	80.09	1.78	11.03		8,246	14,843		
			4						5.57	81.41	1.81	11.21		8,345	15,021		
7 miles northeast of; sec. 19, T. 35 N., R. 8 W., prospect, A bed, 30-inch cut.	8433	B	1	3.3	27.5	49.0	20.17	.77	4.83	63.30	1.21	9.72	1.3	6,315	11,370		441
			2		28.0	51.1	20.85	.80	4.62	65.44	1.25	7.04		6,525	11,750		
			3		35.5	64.5		1.01	5.83	82.68	1.58	8.90		8,245	14,840		
7 miles east of, B bed, 4-foot cut	8431	B	1	5.2	27.5	52.8	14.46	1.98	4.93	64.33	1.22	13.08	2.1	6,335	11,410		441
			2		29.0	55.7	15.25	2.09	4.59	67.87	1.29	8.91		6,685	12,030		
			3		34.0	66.0		2.47	5.42	80.09	1.52	10.50		7,885	14,200		
8 miles east of; SW. ¼ SW. ¼ sec. 19, T. 35 N., R. 8 W., C bed, prospect (30 feet from mouth, 21-inch cut).	8432	B	1	4.8	19.5	28.6	47.1	3.02	3.61	38.55	.76	6.95	2.1	3,840	6,910		441
			2		20.0	30.5	49.5	3.17	3.24	40.50	.80	2.80		4,035	7,260		
			3		40.0	60.0		6.28	6.41	80.18	1.58	5.55		7,985	14,370		
19 miles east of; SE. ¼ NW. ¼ sec. 15, T. 35 N., R. 6 W., Palmer mine, B bed, 220 feet down entry, 8-foot cut.	*9146	B	1	3.28	34.64	50.67	11.41	.86	5.36	69.12	1.33	11.92	2.0	6,948	12,506		442
			2		35.81	52.39	11.80	.89	5.17	71.46	1.38	9.30		7,184	12,931		
			3		40.60	59.40		1.01	5.86	81.02	1.56	10.55		8,145	14,661		
Hesperus, ½ mile southwest of; Hesperus mine, Hesperus bed (entry 1 west of slope, 5½-foot cut).	3573	B	1	5.55	36.23	52.53	5.69	.64	5.46	72.70	1.37	14.14	2.3	7,289	13,120	316	442
			2		38.36	55.62	6.02	.68	5.12	76.97	1.45	9.76		7,717	13,891		
			3		40.82	59.18		.72	5.45	81.90	1.54	10.39		8,212	14,782		
			4						5.49	82.50	1.55	10.46		8,256	14,861		
Same (third level west on main slope, 5½-foot cut).	3950	B	1	5.71	36.16	52.78	5.35	.66					2.7			316	442
			2		38.35	55.98	5.67	.70									
			3		40.65	59.35		.74									
Perins, 4 miles northwest of Durango, Perins Peak mine, 1,200 feet in, main entry, 94½-inch section.	3552	B	1	3.64	37.79	53.35	5.22	1.36	5.39	75.40	1.48	11.15	1.6	7,553	13,595	316	443
			2		39.22	55.36	5.42	1.41	5.18	78.25	1.54	8.20		7,838	14,108	341	
			3		41.46	58.54		1.49	5.48	82.73	1.62	8.68		8,287	14,917		
			4						5.56	83.98	1.65	8.81		8,378	15,080		
Porter, 4 miles southwest of Durango, Porter mine, No. 3 bed (1,500 feet in, south side main entry, 3-foot cut).	2092	B	1	2.73	36.05	54.48	6.74	.53					1.3	7,730	13,914	285	443
			2		37.06	56.01	6.93	.54						7,947	14,305	316	
			3		39.82	60.18		.58						8,539	15,371		
Same (run of mine)	537D	C	1	1.24	31.65	50.99	16.12	.54	4.73	69.96	1.36	7.29	.80	7,001	12,602		
			2		32.05	51.63	16.32	.55	4.65	70.83	1.38	6.27		7,089	12,760		
			3		38.30	61.70		.66	5.56	84.64	1.65	7.49		8,471	15,248		
Same (2,000 feet in, main heading, 2½-foot cut)	2093	B	1	2.63	36.15	53.49	7.73	.56					1.2			285	443
			2		37.13	54.93	7.94	.58								316	
			3		40.33	59.67		.63									
Same (1,250 feet north of mine mouth) (31½-inch cut).	3997	B	1	2.02	34.92	55.89	7.17	.47					.9			316	443
			2		35.64	57.04	7.32	.48									
			3		38.46	61.54		.52									
Porter No. 1 mine, No. 1 bed (28-inch cut)	3995	B	1	3.33	34.85	52.68	9.14	1.14					1.9			316	444
			2		36.05	54.50	9.45	1.18									
			3		39.81	60.19		1.30									

Table of chemical analyses—Continued.

	Sample.			Proximate.				Ultimate.						Calorific value.		Reference.	
Locality, bed, etc.	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Air-drying loss.	Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
COLORADO—Continued.																	
LA PLATA COUNTY—continued.																	
Porter—Continued. Porter No. 2 mine, No. 2 bed (43½-inch cut)	3996	B	1	2.57	32.92	55.27	9.24	0.72	....	....	....	....	1.1	....	....	316	444
			2	....	33.79	56.73	9.48	.74	....	....	....	....	....	....	....		
			3	....	37.33	62.67	....	.82	....	....	....	....	....	....	....		
15 miles southwest of; 5 miles northeast of Pendleton, N. Mex., NW. ¼ SW. ¼ sec. 23, T. 32 N., R. 12 W., 25 feet north of State line, Pruitt mine, Carbonero bed (58-inch cut).	3639	B	1	7.14	33.54	46.73	12.59	.56	....	....	....	....	3.0	....	....	316	444
			2	....	36.12	50.32	13.56	.60	....	....	....	....	....	....	....		
			3	....	41.79	58.21	....	.69	....	....	....	....	....	....	....		
LARIMER COUNTY.																	
Dixon, 6 miles northeast of; sec. 24, T. 10 N., R. 68 W., Indian Springs mine, 700 feet north and 70 feet east on main entry, 74-inch bed (61-inch cut).	6433	B	1	29.33	28.95	32.72	9.00	3.43	6.28	42.88	0.75	37.66	24.9	4,149	7,468	381	445
			2	....	40.96	46.30	12.74	4.85	4.27	60.68	1.06	16.40	....	5,871	10,568		
			3	....	46.94	53.06	....	5.56	4.89	69.54	1.21	18.80	....	6,728	12,110		
LAS ANIMAS COUNTY.																	
Aguilar, 2 miles northwest of; NW. ¼ sec. 20, T. 30 S., R. 65 W., Las Animas No. 4 mine, Broadhead No. 4 bed, 4-foot cut.	6536	B	1	2.42	35.14	56.38	6.06	.42	5.30	76.93	1.19	10.10	1.1	7,530	13,554	381	446
			2	....	36.01	57.78	6.21	.43	5.15	78.84	1.22	8.15	....	7,717	13,891		
			3	....	38.39	61.61	....	.46	5.49	84.06	1.30	8.69	....	8.228	14,810		
1 mile southwest of; NW. ¼ sec. 34, T. 30 S., R. 65 W., Peerless-Annex mine, room 1 north entry, Peerless bed, 4-foot cut.	6528	B	1	2.15	34.82	54.79	8.24	.72	4.97	75.11	1.21	9.75	.7	7,453	13,415	381	446
			2	....	35.59	55.99	8.42	.74	4.83	76.76	1.24	8.01	....	7,617	13,711		
			3	....	38.86	61.14	....	.81	5.27	83.81	1.35	8.76	....	8.317	14,971		
Berwind, NE. ¼ NE. ¼ sec. 36, T. 31 S. R. 65 W., Berwind No. 3 mine, south entry 2, off east entry 14, Berwind bed, 54-inch cut.	6456	B	1	3.31	32.55	53.75	10.39	.74	5.30	72.61	1.24	9.72	2.3	7,329	13,192	381	446
			2	....	33.66	55.59	10.75	.76	5.10	75.09	1.28	7.02	....	7,580	13,644		
			3	....	37.71	62.29	....	.85	5.71	84.13	1.43	7.88	....	8,493	15,287		
1 mile west of; Toller mine, 180 feet southwest of shaft, 71½-inch cut.	796D	B	1	6.43	31.82	47.97	13.78	.56	....	....	....	....	5.8	6,789	12,220	5	447
			2	....	34.00	51.27	14.73	.60	....	....	....	....	....	7,256	13,061		
			3	....	39.87	60.13	....	.70	....	....	....	....	....	8,509	15,317		
Same	880D	C	1	4.22	32.38	50.22	13.18	.64	5.14	70.69	1.20	9.15	2.6	7,045	12,681	......	......
			2	....	33.80	52.44	13.76	.67	4.88	73.80	1.25	5.64	....	7,355	13,239		
			3	....	39.19	60.81	....	.78	5.66	85.58	1.44	6.54	....	8,529	15,351		

Bowen, 1 mile north of; Suffield mine, Walsen bed (2,000 feet north of opening, 61-inch bed).	480D	A	1	2.47	33.66	52.99	10.88	.82					1.7			5	447
			2		34.51	54.33	11.16	.84									
			3		38.84	61.16		.95									
Same (2,600 feet N. 30° W. of opening, 5-foot bed).	481D	A	1	2.97	32.50	50.55	13.98	.65					2.2	6,936	12,485	5	447
			2		33.50	52.09	14.41	.67						7,148	12,866		
			3		39.14	60.86		.78						8,352	15,034		
Cokedale, sec. 25, T. 33 S., R. 65 W., Cokedale mine (natural coke).	6367	B	1	.57	.39	78.24	20.80	.54					.3				447
			2		.39	78.69	20.92	.54									
			3		.49	99.51		.68									
Same (room 16, off east entry 3, 75½-inch bed, 61½-inch cut).	6313	B	1	2.18	25.96	53.21	18.65	.57					1.4			381	447
			2		26.54	54.39	19.07	.58									
			3		32.79	67.21		.72									
Same (room 26, entry 4 west), 65½-inch cut	6321	B	1	2.67	25.82	57.33	14.18	.61	4.63	71.08	1.09	8.41	1.9	7,139	12,850	381	447
			2		26.53	58.90	14.57	.63	4.45	73.03	1.12	6.20		7,335	13,203		
			3		31.05	68.95		.74	5.21	85.48	1.31	7.26		8,586	15,455		
Delagua, Delagua No. 2 mine (5,200 feet north of opening, 65½-inch cut).	113D	A	1	3,17	36.19	51.56	9.08	.51					2.0			368	448
			2		37.38	53.25	9.37	.53									
			3		41.25	58.75		.58									
Same (7,000 feet north of opening, 65½-inch cut).	114D	A	1	2.91	36.34	52.98	7.77	.47					1.6	7,353	13,235	368	448
			2		37.42	54.58	8.00	.48						7,573	13,631		
			3		40.68	59.32		.52						8,232	14,818		
Same (run of mine, 41 tons)	152D	C	1	3.19	33.99	51.25	11.57	.58	5.23	71.44	.99	10.19	1.0	7,123	12,821	368	
			2		35.12	52.93	11.95	.60	5.04	73.79	1.02	7.60		7,358	13,243		
			3		39.89	60.11		.68	5.72	83.80	1.16	8.64		8,357	15,043		
Engleville, 3 miles east of Trinidad; Engle mine, 1 mile south of opening, 86½-inch bed.	103D	A	1	3.14	30.16	51.79	14.91	.68					1.9			368	449
			2		31.14	53.46	15.40	.70									
			3		36.81	63.19		.83									
Same (10,000 feet east of opening, 74-inch cut)	104D	A	1	2.79	29.44	48.75	19.02	.58					1.5	6,621	11,918	368	449
			2		30.29	50.15	19.56	.60						6,811	12,260		
			3		37.66	62.34		.75						8,468	15,242		
Same (run of mine, 24 tons)	115D	C	1	2.25	29.49	47.82	20.44	.64	4.59	65.00	1.13	8.20	1.2	6,508	11,714	368	
			2		30.17	48.92	20.91	.65	4.44	66.50	1.16	6.34		6,658	11,984		
			3		38.15	61.85		.82	5.61	84.08	1.47	8.02		8,418	15,152		
Hastings, Hastings mine (3,800 feet south of opening, room 1, south slope 3, 5¼-foot cut).	254D	A	1	1.54	34.74	54.09	9.63	.63					.2	7,589	13,660	368	449
			2		35.29	54.93	9.78	.64						7,708	13,874		
			3		39.12	60.88		.71						8,543	15,377		
Same (4,600 feet south of opening, 94-inch cut)	255D	A	1	2.75	34.98	51.92	10.35	.66					1.4			368	449
			2		35.96	53.40	10.64	.68									
			3		40.24	59.76		.76									
Same (slack, ⅛-inch screenings, 29 tons)	272D	C	1	2.37	31.50	46.98	19.15	.74	4.75	66.17	.97	8.22	.6	6,598	11,876	368	
			2		32.26	48.12	19.62	.76	4.61	67.78	.99	6.24		6,758	12,164		
			3		40.13	59.87		.94	5.72	84.31	1.24	7.79		8,407	15,133		
Morley, Morley mine, 1,500 feet south, main slope, Engleville bed, 7½-foot cut.	7196	A	1	3.88	27.34	55.05	13.73	.47	4.83	69.67	1.29	10.01	3.1	6,971	12,548		450
			2		28.44	57.28	14.28	.49	4.58	72.48	1.34	6.83		7,253	13,055		
			3		33.18	66.82		.57	5.34	84.56	1.56	7.97		8,461	15,230		
Primero, NE. ¼ sec. 26, T. 33 S., R. 66 W., Primero mine, 79-inch cut (4,200 feet west of drift mouth), Primero bed.	483D	A	1	2.23	32.07	56.93	8.77	.57					1.8			5	450
			2		32.80	58.23	8.97	.58									
			3		36.03	63.97		.64									
Same (3,000 feet northwest of opening, blind entry 4).	484D	A	1	2.52	32.58	54.32	10.58	.47					2.1	7,449	13,408	5	450
			2		33.42	55.73	10.85	.48						7,642	13,756		
			3		37.49	62.51		.54						8,565	15,417		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
COLORADO—Continued.																	
LAS ANIMAS COUNTY—continued.																	
Primero, Primero mine—Continued.																	
Same (run of mine)	537D	C	1	1.24	31.65	50.99	16.12	0.54	4.73	69.96	1.36	7.29	0.8	7,001	12,602	5	......
			2	......	32.05	51.63	16.32	.55	4.65	70.83	1.38	6.27	......	7,089	12,760		
			3	......	38.30	61.70	......	.66	5.56	84.64	1.65	7.49	......	8,471	15,248		
Same (room 1, third butt entry A, off entry 9, 7-foot 7½-inch cut).	6370	B	1	2.28	29.81	58.75	9.16	.50	5.22	74.24	1.08	9.80	1.5	7,655	13,781	381	450
			2	......	30.50	60.13	9.37	.51	5.09	75.97	1.11	7.95	......	7,834	14,101		
			3	......	33.65	66.35	......	.56	5.62	83.83	1.22	8.77	......	8,644	15,559		
Same (west entry 200 feet in, natural coke)	6368	B	1	4.07	7.97	77.63	10.33	.60	......	......	......	......	2.4	......	......	381	450
			2	......	8.31	80.92	10.77	.63	......	......	......	......	......	......	......		
			3	......	9.31	90.69	......	.71	......	......	......	......	......	......	......		
Primrose (near Kipner), SE. ¼ NW. ¼, sec. 5, T. 30 S., R. 65 W., Primrose mine, room 3 off entry 7½ north, 4½-foot cut.	6530	B	1	3.04	34.44	53.54	8.98	.35	5.08	71.98	1.31	12.30	1.4	7,185	12,933	381	451
			2	......	35.52	55.22	9.26	.36	4.89	74.24	1.35	9.90	......	7,411	13,340		
			3	......	39.14	60.86	......	.40	5.39	81.81	1.49	10.91	......	8,167	14,701		
Rugby, 1½ miles southwest of; sec. 9, T. 30 S., R. 65 W., Rapson mine, Cameron bed (250 feet south of drift mouth, south entry 3, 40½-inch cut).	735D	A	1	3.77	36.55	51.26	8.42	.70	......	......	......	......	1.6	......	......	5	452
			2	......	37.98	53.27	8.75	.73	......	......	......	......	......	......	......		
			3	......	41.62	58.38	......	.80	......	......	......	......	......	......	......		
Same (north entry 3, 250 feet north of drift mouth, 3¾-foot bed).	734D	A	1	3.28	36.08	51.44	9.20	.72	......	......	......	......	1.1	7,178	12,920	5	452
			2	......	37.31	53.18	9.51	.74	......	......	......	......	......	7,421	13,358		
			3	......	41.23	58.77	......	.82	......	......	......	......	......	8,201	14,762		
Same (1-inch screenings)	805D	C	1	3.11	35.22	47.68	13.99	.81	4.86	67.60	1.36	11.38	1.4	6,775	12,195	5	
			2	......	36.35	49.21	14.44	.84	4.65	69.77	1.40	8.90	......	6,992	12,586		
			3	......	42.49	57.51	......	.98	5.43	81.55	1.64	10.40	......	8,172	14,710		
Same (picked from car), "Niggerhead," 46½-inch bed).	6534	C	1	1.98	29.72	49.45	18.85	.53	......	......	......	......	.7	......	......	......	......
			2	......	30.32	50.45	19.23	.54	......	......	......	......	......	......	......		
			3	......	37.54	62.46	......	.67	......	......	......	......	......	......	......		
Same (entry 3 south, 46½-inch bed)	6533	B	1	3.67	33.69	52.16	10.48	.64	5.30	70.93	1.19	11.46	2.3	7,025	12,645	381	452
			2	......	34.97	54.15	10.88	.66	5.08	73.63	1.24	8.51	......	7,293	13,127		
			3	......	39.24	60.76	......	.74	5.70	82.62	1.39	9.55	......	8,183	14,729		
Sopris, Francisco mine, Lower bed (1,200 feet southwest of slope, 45½-inch bed).	230D	A	1	3.52	29.09	54.63	12.76	.70	......	......	......	......	2.7	......	......	368	452
			2	......	30.15	56.62	13.23	.73	......	......	......	......	......	......	......		
			3	......	34.75	65.25	......	.84	......	......	......	......	......	......	......		
Same (3,000 feet west of slope, 40½-inch bed)	231D	A	1	1.62	29.16	59.56	9.66	.72	......	......	......	......	.7	7,715	13,887	368	452
			2	......	29.66	60.54	9.80	.73	......	......	......	......	......	7,842	14,116		
			3	......	32.88	67.12	......	.81	......	......	......	......	......	8,696	15,653		

Same (run of mine, 32 tons)	245D	C	1	1.96	28.82	51.39	17.83	.67	4.61	69.46	1.08	6.35	.9	6,930	12,474	368	......
			2	......	29.40	52.42	18.18	.68	4.48	70.85	1.10	4.71	......	7,069	12,723		
			3	......	35.93	64.07	......	.84	5.47	86.60	1.35	5.74	......	8,640	15,552		
Piedmont mine, Lower bed (2,600 feet southeast of slope, 57½-inch bed).	232D	A	1	2.22	30.08	57.78	9.92	.69	......	......	......	......	1.6	......	......	368	453
			2	......	30.77	59.08	10.15	.71	......	......	......	......	......	......	......		
			3	......	34.34	65.66	......	.76	......	......	......	......	......	......	......		
Same (2,600 feet southwest of slope, east entry 12, 44½-inch bed).	233D	A	1	2.10	29.15	55.74	13.01	.65	......	......	......	......	1.4	7,363	13,253	368	453
			2	......	29.77	56.92	13.31	.66	......	......	......	......	......	7,521	13,538		
			3	......	34.25	65.75	......	.79	......	......	......	......	......	8,674	15,613		
Same (run of mine, 32 tons)	300D	C	1	1.44	28.37	53.36	16.83	.72	4.36	69.99	1.05	7.05	.3	7,070	12,726	368	......
			2	......	28.78	54.14	17.08	.73	4.26	71.01	1.07	5.85	......	7,173	12,912		
			3	......	34.71	65.29	......	.88	5.14	85.63	1.28	7.07	......	8,650	15,570		
Same (main slope, 2,000 feet south of opening, 42-inch cut).	10210	B	1	5.98	27.35	55.34	11.33	.65	......	......	......	......	5.4	......	......	......	453
			2	......	29.09	58.86	12.05	.69	......	......	......	......	......	......	......		
			3	......	33.08	66.92	......	.78	......	......	......	......	......	......	......		
Same (south entry, 3,500 feet south, 70-inch cut).	10209	B	1	5.19	25.49	52.25	17.07	.60	......	......	......	......	4.5	......	......	......	453
			2	......	26.88	55.12	18.00	.63	......	......	......	......	......	......	......		
			3	......	32.78	67.22	......	.77	......	......	......	......	......	......	......		
Same (composite of Nos. 10209 and 10210)	10218	......	1	5.78	26.22	53.79	14.21	.59	5.21	69.54	1.24	9.21	5.0	6,918	12,452	......	453
			2	......	27.83	57.09	15.08	.63	4.85	73.80	1.32	4.32	......	7,342	13,216		
			3	......	32.77	67.23	......	.74	5.71	86.91	1.55	5.09	......	8,646	15,563		
Sopris mine, NW. ¼ SE. ¼ sec. 33, T. 33 S., R. 64 W. (7,000 feet southwest of slope, Cameron 47-inch bed).	479D	A	1	2.40	29.29	55.86	12.45	.88	......	......	......	......	2.1	......	......	5	454
			2	......	30.01	57.25	12.74	.90	......	......	......	......	......	......	......		
			3	......	34.39	65.61	......	1.03	......	......	......	......	......	......	......		
Same (6,800 feet southeast of slope, Cameron 53-inch bed).	485D	A	1	1.90	30.79	56.43	10.88	.69	......	......	......	......	1.4	7,503	13,505	......	454
			2	......	31.39	57.52	11.09	.70	......	......	......	......	......	7,648	13,766		
			3	......	35.30	64.70	......	.79	......	......	......	......	......	8,602	15,484		
Same (entry 17 west, 43½-inch bed)	6310	B	1	1.89	28.18	56.97	12.96	.68	4.56	72.15	1.13	8.52	1.0	7,285	13,113	381	454
			2	......	28.72	58.07	13.21	.69	4.43	73.54	1.15	6.98	......	7,426	13,367		
			3	......	33.09	66.91	......	.80	5.10	84.73	1.33	8.04	......	8,556	15,401		
Same (run of mine)	536D	C	1	2.35	30.69	52.80	14.16	.64	4.63	71.12	1.04	8.41	1.1	7,104	12,787	5	......
			2	......	31.43	54.07	14.50	.66	4.48	72.83	1.07	6.46	......	7,275	13,095		
			3	......	36.76	63.24	......	.77	5.24	85.18	1.25	7.56	......	8,509	15,316		
Starkville, SW. ¼ SE. ¼ sec. 36, T. 33 S., R. 64 W., Starkville coke ovens.	6311	C	1	.49	1.31	79.10	19.10	.57	.76	77.33	1.00	1.24	.0	6,442	11,596	......	......
			2	......	1.32	79.49	19.19	.57	.71	77.72	1.00	.81	......	6,474	11,653		
			3	......	1.63	98.37	......	.71	.88	96.18	1.24	.99	......	8,012	14,421		
Tabasco, Tabasco ovens, taken from mine cars, coke	6457	C	1	.69	2.00	79.57	17.74	.56	......	......	......	......	.3	......	......	......	......
			2	......	2.01	80.13	17.86	.56	......	......	......	......	......	......	......		
			3	......	2.45	97.55	......	.68	......	......	......	......	......	......	......		
Tercio, Las Vega mine, No. 3 bed (800 feet north of opening, 42-inch cut).	101D	A	1	2.28	33.97	52.79	10.96	.68	......	......	......	......	1.3	7,465	13,437	368	455
			2	......	34.76	54.02	11.22	.70	......	......	......	......	......	7,639	13,750		
			3	......	39.15	60.85	......	.79	......	......	......	......	......	8,604	15,487		
Same (1,000 feet north of opening, 39-inch cut)	111D	A	1	2.56	33.17	53.63	10.64	.67	......	......	......	......	1.6	......	......	368	455
			2	......	34.04	55.04	10.92	.69	......	......	......	......	......	......	......		
			3	......	38.21	61.79	......	.77	......	......	......	......	......	......	......		
Same (run of mine, 28 tons)	117D	C	1	2.66	31.20	50.11	16.03	.68	4.86	68.37	.99	9.07	1.5	6,870	12,366	368	......
			2	......	32.06	51.47	16.47	.69	4.69	70.24	1.02	6.89	......	7,058	12,704		
			3	......	38.38	61.62	......	.84	5.61	84.08	1.22	8.25	......	8,579	15,442		
Same, No. 2 bed (900 feet north of slope, 81-inch bed).	102D	A	1	1.97	32.23	50.07	15.73	.73	......	......	......	......	1.1	6,927	12,469	368	455
			2	......	32.88	51.08	16.04	.74	......	......	......	......	......	7,066	12,719		
			3	......	39.16	60.84	......	.88	......	......	......	......	......	8,417	15,151		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
COLORADO—Continued.																	
LAS ANIMAS COUNTY—continued.																	
Tercio, Las Vega mine—Continued.																	
Same (1,800 feet north of slope, No. 2 bed, 78-inch cut).	112D	A	1	2.96	30.48	48.36	18.20	0.69	......	......	......	......	2.0	......	......	368	455
			2	......	31.41	49.84	18.75	.71	......	......	......	......	......	......	......		
			3	......	38.65	61.35	......	.87	......	......	......	......	......	......	......		
Same (run of mine)	116D	C	1	2.87	29.94	48.06	19.13	.77	4.61	65.28	1.06	9.15	1.7	6,511	11,720	368	......
			2	......	30.83	49.48	19.69	.79	4.42	67.21	1.09	6.80	......	6,703	12,066		
			3	......	38.39	61.61	......	.99	5.50	83.70	1.36	8.45	......	8,348	15,026		
Trinidad, 5 miles north of; NE. ¼ SW. ¼ sec. 24, T. 32 S., R. 64 W., Bowen mine, lowest bed, room 11, north entry 2, east entry 6, 7-foot cut.	6458	B	1	3.04	28.01	50.61	18.34	.63	4.94	65.91	.93	9.25	1.7	6,594	11,869	381	456
			2	......	28.89	52.19	18.92	.65	4.74	67.98	.96	6.75	......	6,801	12,242		
			3	......	35.63	64.37	......	.80	5.85	83.84	1.18	8.33	......	8,388	15,098		
14 miles west of; sec. 26, T. 33 S., R. 66 W., Primero mine (bottom part of coal bed; not mined).	5151	B	1	2.24	27.46	56.77	13.53	.58	......	......	......	......	1.4	......	......	......	456
			2	......	28.10	58.06	13.84	.60	......	......	......	......	......	......	......		
			3	......	32.61	67.39	......	.70	......	......	......	......	......	......	......		
5 miles southwest of; sec. 33, T. 33 S., R. 64 W., Sopris mine, Sopris bed (top part of bed; not mined).	5152	B	1	2.01	27.75	58.59	11.65	.66	......	......	......	......	.9	......	......	......	456
			2	......	28.32	59.79	11.89	.68	......	......	......	......	......	......	......		
			3	......	32.14	67.86	......	.77	......	......	......	......	......	......	......		
Wildcat Creek, 1 mile south of; NE. ¼ sec. 18, T. 32 S., R. 68 W., Clark's prospect (100 feet from opening), 59-inch bed.	6455	B	1	3.14	30.62	58.83	7.41	.67	4.76	75.74	1.10	10.32	2.0	7,540	13,572	381	457
			2	......	31.61	60.74	7.65	.69	4.55	78.19	1.14	7.78	......	7,784	14,011		
			3	......	34.23	65.77	......	.75	4.93	84.66	1.23	8.43	......	8,429	15,172		
Wootton, Red Robin mine, Savage bed (260 feet west of opening, west entry 2), 53½-inch cut.	257D	A	1	2.33	36.08	46.97	14.62	.63	......	......	......	......	.6	6,959	12,526	368	457
			2	......	36.95	48.10	14.95	.65	......	......	......	......	......	7,125	12,825		
			3	......	43.45	56.55	......	.76	......	......	......	......	......	8,379	15,082		
Same (275 feet west of opening, west entry 1, 58-inch cut).	258D	A	1	2.15	34.55	49.53	13.77	.68	......	......	......	......	.3	......	......	368	457
			2	......	35.31	50.62	14.07	.69	......	......	......	......	......	......	......		
			3	......	41.09	58.91	......	.80	......	......	......	......	......	......	......		
Same (run of mine, 25 tons)	345D	C	1	2.77	33.12	45.29	18.82	.62	4.83	64.45	1.17	10.11	.6	6,490	11,682	368	......
			2	......	34.08	46.56	19.36	.64	4.65	66.29	1.20	7.86	......	6,675	12,015		
			3	......	42.24	57.76	......	.79	5.75	82.20	1.49	9.77	......	8,277	14,899		
MESA COUNTY.																	
Cameo (4 miles northeast of Palisades), NW. ¼ SE. ¼ sec. 34, T. 10 S., R. 98 W., Bailey mine, Cameo bed (165 feet in, 6½-foot cut).	5724	B	1	7.18	32.97	50.98	8.87	.58	5.53	67.54	1.24	16.24	2.4	6,649	11,968	341	458
			2	......	35.52	54.92	9.56	.62	5.10	72.76	1.34	10.62	......	7,163	12,893		
			3	......	39.27	60.73	......	.69	5.64	80.45	1.48	11.74	......	7,920	14,256		

NW. ¼ NW. ¼ sec. 34, T. 10 S., R. 98 W., Cameo mine, northwest end of mine workings Cameo bed (7-foot 11-inch cut).	3547	B	1	8.17	33.69	53.42	4.72	.57	......	......	......	......	2.8	......	......	316	458
			2	......	36.69	58.17	5.14	.62	......	......	......	......	......	......	......	371	
			3	......	38.68	61.32	......	.65	......	......	......	......	......	......	......		
Same (room 5, off main entry, 8-foot 6-inch cut).	3550	B	1	8.42	33.32	47.53	10.73	.60	5.45	65.52	1.20	16.50	4.3	6,466	11,639	316	
			2	......	36.38	51.90	11.72	.66	4.92	71.54	1.31	9.85	......	7,060	12,708	371	458
			3	......	41.21	58.79	......	.74	5.58	81.04	1.48	11.16	......	7,998	14,396		
			4	......	......	......	......	......	5.62	81.64	1.50	11.24	......	8,040	14,472		
Same (upper bed, end of main entry, 8½-foot cut).	3542	B	1	7.55	31.07	48.27	13.11	.57	......	......	......	......	2.6	......	......	316	458
			2	......	33.61	52.21	14.18	.62	......	......	......	......	......	......	......	371	
			3	......	39.16	60.84	......	.72	......	......	......	......	......	......	......		
Same (3,500 feet northwest of opening, slope entry, 64½-inch cut).	839D	A	1	7.11	35.21	48.31	9.37	.58	......	......	......	......	1.7	......	......	5	458
			2	......	37.90	52.01	10.09	.62	......	......	......	......	......	......	......		
			3	......	42.15	57.85	......	.69	......	......	......	......	......	......	......		
Same (3,700 feet northwest of opening, west entry 1, 71½-inch cut).	840D	A	1	7.43	36.20	48.62	7.75	.56	......	......	......	......	2.1	6,770	12,186	5	458
			2	......	39.11	52.52	8.37	.61	......	......	......	......	......	7,314	13,165		
			3	......	42.68	57.32	......	.67	......	......	......	......	......	7,982	14,368		
Same (run of mine)........................	852D	C	1	8.52	33.98	45.20	12.30	.58	5.38	64.50	1.31	15.93	3.6	6,288	11,318	5	......
			2	......	37.15	49.40	13.45	.63	4.84	70.51	1.43	9.14	......	6,873	12,371		
			3	......	42.92	57.08	......	.73	5.59	81.47	1.65	10.56	......	7,931	14,276		
Fruita, about 13 miles north of; NE. ¼ sec. 30, T. 8 S., R. 101 W., Nearing mine, Cameo bed (4-foot cut).	3586	B	1	8.27	36.90	48.67	6.16	1.26	5.54	67.48	1.57	17.99	3.6	6,771	12,188	316	459
			2	......	40.23	53.05	6.72	1.37	5.04	73.56	1.71	11.60	......	7,381	13,286	371	
			3	......	43.12	56.88	......	1.47	5.40	78.86	1.83	12.44	......	7,913	14,243		
			4	......	......	......	......	......	5.48	80.04	1.86	12.62	......	7,998	14,396		
About 12 miles north of; NW. ¼ sec. 29, T. 8 S., R. 101 W., Nugent mine, Lower bed (end of main entry, 4½-foot cut).	3585	B	1	9.73	35.27	49.95	5.05	1.30	5.81	68.84	1.55	17.45	5.2	6,809	12,256	316	459
			2	......	39.07	55.34	5.59	1.44	5.24	76.26	1.72	9.75	......	7,543	13,577	371	
			3	......	41.39	58.61	......	1.53	5.55	80.78	1.82	10.32	......	7,990	14,382		
			4	......	......	......	......	......	5.64	82.03	1.85	10.48	......	8,079	14,542		
About 13 miles northeast of; SW. ¼ sec. 27, T. 8 S., R. 101 W., Kiel or Gross mine, Cameo bed (end of main entry, 3½-foot cut).	3587	B	1	9.44	35.51	49.33	5.72	1.02	5.94	68.47	1.56	17.29	5.5	6,811	12,260	316	460
			2	......	39.21	54.47	6.32	1.13	5.40	75.61	1.72	9.82	......	7,521	13,538	371	
			3	......	41.86	58.14	......	1.20	5.76	80.71	1.84	10.49	......	8,028	14,450		
			4	......	......	......	......	......	5.83	81.69	1.86	10.62	......	8,098	14,576		
About 13 miles north of; SW. ¼ sec. 18, T. 8 S., R. 101 W., Lane prospect, Palisades bed (51-inch cut).	3584	B	1	5.55	36.01	52.75	5.69	.93	......	......	......	......	1.6	......	......	316	460
			2	......	38.13	55.85	6.02	.98	......	......	......	......	......	......	......	371	
			3	......	40.57	59.43	......	1.04	......	......	......	......	......	......	......		
Northeast of; sec. 5, T. 9 S., R. 100 W., Tomlinson (or Hunter) mine, Cameo bed (8-foot cut).	3640	B	1	5.40	33.30	55.57	5.73	.49	5.39	70.18	1.20	17.01	.2	6,894	12,409	316	460
			2	......	35.20	58.74	6.06	.52	5.06	74.19	1.27	12.90	......	7,288	13,118	371	
			3	......	37.47	62.53	......	.55	5.39	78.97	1.35	13.74	......	7,757	13,963		
			4	......	......	......	......	......	5.42	79.41	1.36	13.81	......	7,789	14,020		
Grand Junction, 1¼ miles south of; SW. ¼ SW. ¼ sec. 26, T. 1 S., R. 1 W. 80 feet from mouth of deserted mine (4½-foot cut).	5530	B	1	5.96	26.41	41.21	26.42	.80	......	......	......	......	2.1	4,697	8,455	341	461
			2	......	28.08	43.83	28.09	.85	......	......	......	......	......	4,995	8,991		
			3	......	39.05	60.95	......	1.18	......	......	......	......	......	6,946	12,503		
About 11 miles northeast of; 10 miles northwest of Palisades, SW. ¼ sec. 8, T. 10 S., R. 99 W., Book Cliff mine, end of main entry, Cameo bed (90½-inch cut).	3494	B	1	10.89	34.12	44.77	10.22	1.09	......	......	......	......	5.2	......	......	316	461
			2	......	38.29	50.24	11.47	1.22	......	......	......	......	......	......	......	371	
			3	......	43.25	56.75	......	1.38	......	......	......	......	......	......	......		
Same (face of southeast entry, 7-foot 7-inch cut..	3496	B	1	10.75	34.83	47.58	6.84	.55	......	......	......	......	3.5	......	......	316	461
			2	......	39.02	53.32	2.76	.62	......	......	......	......	......	......	......	371	
			3	......	42.26	57.74	......	.67	......	......	......	......	......	......	......		
Same (face of northwest entry, 7-foot 10-inch cut).	3490	B	1	11.42	34.25	44.49	9.84	.84	5.46	61.84	1.07	20.95	5.6	6,166	11,099	316	......
			2	......	38.67	50.22	11.11	.95	4.73	69.81	1.21	12.19	......	6,961	12,530	371	
			3	......	43.50	56.50	......	1.07	5.32	78.54	1.36	13.71	......	7,831	14,096		
			4	......	......	......	......	......	5.38	79.38	1.37	13.87	......	7,890	14,202		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
COLORADO—Continued.																	
MESA COUNTY—continued.																	
Grand Junction, Book Cliff mine—Continued.																	
Same (first coal below upper bed, reported 2½ feet, collected by mine superintendent).	3581	B	1	11.03	35.90	46.35	6.72	0.68	......	......	......	......	5.8	......	......	371	461
			2	......	40.36	52.09	7.55	.76	......	......	......	......	......	......	......		
			3	......	43.66	56.34	......	.82	......	......	......	......	......	......	......		
About 11 miles northeast of; NW. ¼ sec. 7, T. 10 S., R. 99 W., Steel mine, Palisades bed (4-foot 11-inch cut).	3495	B	1	9.54	34.49	46.33	9.64	.78	......	......	......	......	3.1	......	......	316	462
			2	......	38.13	51.21	10.66	.86	......	......	......	......	......	......	......	371	
			3	......	42.68	57.32	......	.96	......	......	......	......	......	......	......		
About 12 miles northeast of; sec. 1, T. 10 S., R. 100 W., Black Diamond mine, Palisades bed (5½-foot cut, weathered).	3493	B	1	15.39	32.57	45.69	6.35	.62	......	......	......	......	7.2	......	......	316	462
			2	......	38.49	54.00	7.51	.73	......	......	......	......	......	......	......	371	
			3	......	41.62	58.38	......	.79	......	......	......	......	......	......	......		
About 12 miles northeast of; sec. 36, T. 9 S., R. 100 W., Bob Cat mine, Cameo bed (44 to 55 inch cut).	3489	B	1	6.86	34.20	43.90	15.04	.62	......	......	......	......	1.8	......	......	316	463
			2	......	36.72	47.13	16.15	.67	......	......	......	......	......	......	......	371	
			3	......	43.79	56.21	......	.80	......	......	......	......	......	......	......		
About 12 miles nearly north of; sec. 35, T. 9 S., R. 100 W., Excelsior mine, Palisades bed (55-inch cut, weathered).	3488	B	1	6.52	35.75	48.37	9.36	.67	......	......	......	......	.6	......	......	316	463
			2	......	38.24	51.75	10.01	.72	......	......	......	......	......	......	......	371	
			3	......	42.49	57.51	......	.80	......	......	......	......	......	......	......		
Palisades, SW. ¼ SW. ¼ sec. 3, T. 11 S., R. 98 W., Palisades mine, Palisades bed, room 1, south entry).	3539	B	1	9.02	34.51	50.89	5.58	.67	......	......	......	......	3.1	......	......	316	
			2	......	37.93	55.94	6.13	.74	......	......	......	......	......	......	......	371	463
			3	......	40.41	59.59	......	.79	......	......	......	......	......	......	......		
Same (room 1, west entry)......................	3541	B	1	7.52	36.03	50.46	5.99	.85	5.26	68.43	1.55	17.92	2.0	6,838	12,308	316	463
			2	......	38.96	54.56	6.48	.92	4.78	73.99	1.68	12.15	......	7,394	13,309	371	
			3	......	41.66	58.34	......	.98	5.11	79.12	1.79	13.00	......	7,906	14,231		
			4	......	......	......	......	......	5.16	79.90	1.81	13.13	......	7,962	14,332		
Same (room 5, west entry)......................	3549	B	1	8.77	36.55	48.72	5.96	.83	......	......	......	......	2.5	......	......	316	463
			2	......	40.06	53.41	6.53	.91	......	......	......	......	......	......	......	371	
			3	......	42.86	57.14	......	.97	......	......	......	......	......	......	......		
1¾ miles northeast of; Norwood prospect (Cameo, 95½-inch, bed).	3543	B	1	26.85	30.07	36.16	6.92	.38	......	......	......	......	7.8	......	......	371	463
			2	......	41.11	49.43	9.46	.52	......	......	......	......	......	......	......		
			3	......	45.41	54.59	......	.57	......	......	......	......	......	......	......		
1½ miles northeast of; NW. ¼ SE. ¼ sec. 3, T. 11 S., R. 98 W., Riverside mine, Palisades bed (from working face, 36-inch cut).	3546	B	1	7.57	63.56	52.91	5.96	.72	5.50	69.47	1.56	16.79	2.2	6,913	12,443	316	464
			2	......	36.31	57.24	6.45	.78	5.04	75.16	1.69	10.88	......	7,479	13,462	371	
			3	......	38.81	61.19	......	.83	5.39	80.34	1.80	11.64	......	7,995	14,391		
			4	......	......	......	......	......	5.43	81.01	1.82	11.74	......	8,043	14,477		

2 miles northwest of: SE. ¼ NE. ¼ sec. 6, T. 11 S., R. 98 W., Garfield mine (Palisades bed, 84½-inch cut).	3545	B	1	13.96	31.30	48.73	6.01	.63	5.82	62.19	1.40	23.95	4.4	6,034	10,861	316	464
			2	....	36.38	56.63	6.99	.73	4.96	72.28	1.63	13.41	....	7,013	12,623	371	
			3	....	39.11	60.89	....	.79	5.34	77.71	1.75	14.41	....	7,539	13,570		
			4	....	....	....	....	....	5.38	78.32	1.76	14.54	....	7,582	13,648		
2 miles northeast of; NE. ¼ sec. 3, T. 11 S., R. 98 W. (prospect pit, Cameo bed, 61-inch cut).	3540	B	1	4.71	34.68	52.66	7.95	.56	....	....	....	....	.1	....	....	316	465
			2	....	36.39	55.27	8.34	.59	....	....	....	....	....	....	....	371	
			3	....	39.70	60.30	....	.64	....	....	....	....	....	....	....		
9 miles southeast of; SW. ¼ SE. ¼ sec. 17, T. 12 S., R 97 W., Patterson mine (125 feet from mouth of opening, main entry, 4-foot cut), Cameo bed	5535	B	1	11.51	32.60	45.53	10.36	.93	....	....	....	....	2.7	5,782	10,408	341	465
			2	....	36.84	51.45	11.71	1.05	....	....	....	....	....	6,534	11,761		
			3	....	41.73	58.27	....	1.19	....	....	....	....	....	7,400	13,320		
MOFFAT COUNTY.[a]																	
MONTEZUMA COUNTY.																	
Mancos, 2½ miles southeast of; Spencer mine, Spencer bed (3-foot cut).	4225	B	1	5.44	38.71	50.10	5.75	1.01	5.80	72.26	1.47	13.71	2.0	7,170	12,906	316	466
			2	....	40.94	52.98	6.08	1.07	5.50	76.41	1.55	9.39	....	7,582	13,648		
			3	....	43.59	56.41	....	1.14	5.86	81.36	1.66	9.98	....	8,073	14,531		
			4	....	....	....	....	....	5.92	82.30	1.67	10.11	....	8,140	14,652		
Same (38-inch cut)	3992	B	1	5.42	38.14	51.29	5.15	.78	....	....	....	....	2.0	....	....	316	466
			2	....	40.33	54.22	5.45	.82	....	....	....	....	....	....	....		
			3	....	42.65	57.35	....	.87	....	....	....	....	....	....	....		
3 miles southwest of; Wood mine (100 feet in, 47-inch cut), Spencer bed.	3991	B	1	6.12	35.86	49.44	8.58	.63	....	....	....	....	2.5	....	....	316	466
			2	....	38.20	52.66	9.14	.67	....	....	....	....	....	....	....		
			3	....	42.05	57.95	....	.74	....	....	....	....	....	....	....		
7 miles north of; Dakota formation	4330	B	1	7.71	27.84	48.11	16.34	1.02	4.87	64.24	.89	12.64	6.8	6,380	11,484	......	467
			2	....	30.17	52.12	17.71	1.11	4.34	69.61	.96	6.27	....	6,913	12,443		
			3	....	36.65	63.35	....	1.34	5.28	84.58	1.17	7.63	....	8,400	15,120		
			4	....	....	....	....	....	5.35	85.73	1.19	7.73	....	8,484	15,271		
8 miles north of; Haller mine, 55 feet from mouth, Dakota formation coal (33-inch cut).	3993	B	1	1.54	31.26	53.80	13.40	1.01	....	....	....	....	.6	....	....	316	467
			2	....	31.75	54.64	13.61	1.03	....	....	....	....	....	....	....		
			3	....	36.74	63.26	....	1.19	....	....	....	....	....	....	....		
10 miles southwest of; Todd mine, sec. 28, T. 35 N., R. 14 W. (28-inch cut).	4226	B	1	20.92	31.37	41.26	6.45	.43	....	....	....	....	9.4	....	....	316	467
			2	....	39.67	52.17	8.16	.54	....	....	....	....	....	....	....		
			3	....	43.19	56.81	....	.59	....	....	....	....	....	....	....		
PITKIN COUNTY.																	
Coal Basin (about 30 miles south of Glenwood Springs), Coal Basin mine, "Sunshine" bed (600 feet from opening, 72½-inch cut).	4041	B	1	1.33	21.48	70.24	6.95	.51	....	....	....	....	.4	....	....	316	467
			2	....	21.77	71.19	7.04	.52	....	....	....	....	....	....	....		
			3	....	23.42	76.58	....	.56	....	....	....	....	....	....	....		
Same (9-foot bed, upper bench, sampled from railroad car).	4042	C	1	1.27	22.38	67.35	9.00	.50	....	....	....	....	.4	....	....	316	......
			2	....	22.67	68.21	9.12	.51	....	....	....	....	....	....	....		
			3	....	24.95	75.05	....	.56	....	....	....	....	....	....	....		
Same (1,600 feet from mouth, 9-foot cut)	4043	B	1	1.15	22.43	68.85	7.57	.48	....	....	....	....	.3	....	....	316	467
			2	....	22.69	69.65	7.66	.49	....	....	....	....	....	....	....		
			3	....	24.57	75.43	....	.53	....	....	....	....	....	....	....		
Same (2,200 feet from mouth, 9-foot cut)	4047	B	1	.96	21.49	68.93	8.62	.52	4.66	79.61	1.83	4.76	.2	7,961	14,330	316	467
			2	....	21.70	69.60	8.70	.53	4.59	80.38	1.85	3.95	....	8,038	14,468		
			3	....	23.77	76.23	....	.58	5.02	88.05	2.01	4.34	....	8,805	15,849		
			4	....	....	....	....	....	5.05	88.55	2.04	4.36	....	8,842	15,916		
Same (2,500 feet from entrance, room 50, 9-foot cut).	4049	B	1	1.22	22.02	67.84	8.92	.59	....	....	....	....	.4	....	....	316	467
			2	....	22.29	68.68	9.03	.60	....	....	....	....	....	....	....		
			3	....	24.50	75.50	....	.66	....	....	....	....	....	....	....		

[a] Certain cities and towns now included in Moffat County are here listed under Routt County.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
COLORADO—Continued.																	
PITKIN COUNTY—continued.																	
Coal Basin, Coal Basin mine—Continued.																	
Same (1,100 feet west of opening, on new slope, 78-inch cut, waste sample).	5346	A	1	2.39	19.44	70.76	7.41	0.52	......	......	......	......	1.2	7,987	14,377	5	467
			2	......	19.92	72.49	7.59	.53	......	......	......	......	......	8,183	14,729		
			3	......	21.56	78.44	......	.57	......	......	......	......	......	8,855	15,939		
Same (1,100 feet southwest of opening, on new slope, 67-inch cut, waste sample).	5255	A	1	1.20	22.39	72.90	3.51	.74	......	......	......	......	.4	8,439	15,190	5	467
			2	......	22.66	73.79	3.55	.75	......	......	......	......	......	8,541	15,374		
			3	......	23.49	76.51	......	.78	......	......	......	......	......	8,855	15,939		
Same (run of mine)	894D	C	1	3.07	22.67	65.10	9.16	.63	4.96	78.81	1.69	4.75	1.8	7,772	13,990	5	......
			2	......	23.39	67.16	9.45	.65	4.77	81.31	1.74	2.08	......	8,018	14,432		
			3	......	25.83	74.17	......	.72	5.27	89.80	1.92	2.29	......	8,855	15,939		
Same, Coal Basin bed (main slope, air course, called bone coal, 46-inch cut).	5262	A	1	1.67	21.32	67.73	9.28	.47	......	......	......	......	.4	7,812	14,062	5	467
			2	......	21.68	68.88	9.44	.48	......	......	......	......	......	7,945	14,301		
			3	......	23.94	76.06	......	.53	......	......	......	......	......	8,773	15,791		
Same (second level on right of slope, called bone coal, 138-inch bed, 60-inch cut).	5249	A	1	1.60	19.60	59.38	19.42	.45	......	......	......	......	.3	6,928	12,470	5	467
			2	......	19.92	60.34	19.74	.46	......	......	......	......	......	7,041	12,674		
			3	......	24.82	75.18	......	.57	......	......	......	......	......	8,773	15,791		
Same (run of mine)	888D	C	1	3.75	22.12	62.41	11.72	.40	4.79	75.80	1.45	5.84	3.1	7,416	13,349	5	......
			2	......	22.98	64.84	12.18	.42	4.54	78.75	1.51	2.60	......	7,704	13,867		
			3	......	26.17	73.83	......	.48	5.17	89.66	1.72	2.97	......	8,773	15,791		
Gulch (Spring Gulch station), about 21 miles south of Glenwood Springs, Spring Gulch mine (Anderson bed, 2,070 feet from opening, 58-inch cut).	4009	B	1	2.77	35.15	58.68	3.40	.46	......	......	......	......	1.5	......	......	316 415	468
			2	......	36.15	60.35	3.50	.47	......	......	......	......	......	......	......		
			3	......	37.46	62.54	......	.49	......	......	......	......	......	......	......		
Same (Sunshine, 14-foot bed, 5,300 feet from opening, 11½-foot cut).	4010	B	1	2.30	34.74	56.71	6.25	.44	5.23	76.12	1.54	10.42	1.2	7,766	13.979	316 415	468
			2	......	35.56	58.04	6.40	.45	5.09	77.91	1.58	8.57	......	7,949	14,308		
			3	......	37.99	62.01	......	.48	5.43	83.24	1.68	9.17	......	8,492	15,286		
			4	......	......	......	......	......	5.46	83.64	1.69	9.21	......	8,522	15,340		
Same (north Anderson entry, about 5,200 feet from opening, Anderson bed, 4½-foot cut).	9199	B	1	3.4	34.0	55.4	7.2	.57	5.39	74.49	1.59	10.73	2.1	7,500	13,500	......	468
			2	......	35.5	57.0	7.5	.59	5.19	77.10	1.65	7.99	......	7,765	13,980		
			3	......	38.0	62.0	......	.64	5.61	83.33	1.78	8.64	......	8,390	15,100		
Same (Sunshine bed, 5,200 feet from opening first incline, south entry, 8½-foot cut).	9198	B	1	2.88	33.27	56.74	7.11	.46	5.41	75.13	1.74	10.15	1.8	7,622	13,720	......	468
			2	......	34.26	58.42	7.32	.47	5.24	77.36	1.79	7.82	......	7,848	14,126		
			3	......	36.97	63.03	......	.51	5.65	83.47	1.93	8.44	......	8,468	15,242		

RIO BLANCO COUNTY.

Angora, southwest of; on White River at mouth of Red Wash, sec. 11, T. 2 N., R. 101 W. (4½-foot bed, 3¾-foot cut).	5516	B	1	10.96	33.13	47.05	8.86	.73					3.2	5,939	10,690	341	469
			2		37.21	52.84	9.95	.82						6,670	12,006		
			3		41.32	58.68		.91						7,407	13,333		
Coal Creek, 12 miles northeast of Meeker, Wesson mine (25-foot bed, 8½-foot cut), Wesson bed.	3791	B	1	13.60	36.17	45.57	4.66	.45	5.71	61.92	1.32	25.94	4.1	6,073	10,931	316	469
			2		41.86	52.75	5.39	.52	4.86	71.67	1.53	16.03		7,029	12,652	415	
			3		44.25	55.75		.55	5.14	75.75	1.61	16.95		7,430	13,374		
			4						5.17	76.17	1.62	17.04		7,458	13,424		
Curtis Creek, 6½ miles north of Meeker, prospect (70 feet from mouth, 59-inch cut).	3851	B	1	8.88	33.51	48.12	9.49	.67					2.5			316	470
			2		36.78	52.81	10.41	.74								415	
			3		41.05	58.95		.82									
Meeker, 2½ miles west of; NW. ¼ SW. ¼ sec. 28, T. 1 N., R. 94 W., Fairfield mine, Upper bed (650 feet from entrance, 114½-inch cut).	3482	B	1	10.31	34.86	45.23	9.60	.73					3.2			316	470
			2		38.87	50.43	10.70	.81								415	
			3		43.53	56.47		.91									
Same (525 feet from entrance, 6½-foot cut).....	3498	B	1	9.41	37.97	45.38	7.24	.75	5.34	63.39	1.23	22.05	2.4	6,291	11,324	316	470
			2		41.91	50.10	7.99	.83	4.74	69.97	1.36	15.11		6,944	12,499		
			3		45.56	54.44		.90	5.15	76.05	1.48	16.42		7,548	13,586		
			4						5.19	76.74	1.49	16.58		7,596	13,673		
2 miles west of; on stage road, Adams mine (100 feet from mouth, 49-inch cut).	3483	B	1	12.53	31.78	50.51	5.18	1.36					4.4			316	471
			2		36.33	57.75	5.92	1.55								415	
			3		38.62	61.38		1.65									
Same (100 feet from mouth, 7-foot ½-inch cut)..	3504	B	1	12.00	40.04	45.72	2.24	.51					3.3			316	471
			2		45.50	51.95	2.55	.58								415	
			3		46.69	53.31		.60									
3± miles northwest of; Pollard mine (510 feet from entrance, 73-inch cut).	3849	B	1	12.55	34.64	48.63	4.18	.47					3.7			316	471
			2		39.61	55.61	4.78	.54									
			3		41.60	58.40		.57									
3½ miles northwest of; Black Diamond mine (200 feet from entrance, 87-inch cut), Lord bed.	3847	B	1	12.03	34.21	47.43	6.33	.51	5.72	64.31	1.30	21.83	3.6	6,384	11,491	316	471
			2		38.89	53.91	7.20	.58	4.98	73.10	1.48	12.66		7,257	13,063	415	
			3		41.90	58.10		.62	5.37	78.77	1.59	13.65		7,820	14,076		
			4						5.40	79.27	1.60	13.73		7,855	14,139		
3½ miles west of; on main stage road, Lion Canyon mine (1,140 feet from entrance, 101-inch cut).	3502	B	1	13.20	39.02	42.35	5.43	.68					3.2			316	472
			2		44.95	48.79	6.26	.78								415	
			3		47.95	52.05		.83									
Rangely, 3 miles south of; south side of Raven Park, on Dragon Road, sec. 14, T. 1 N., R. 102 W., Rector mine (11-foot 11-inch bed, 7½-foot cut).	5520	B	1	14.10	31.83	48.81	5.26	.38	5.65	62.15	1.06	25.50	4.8	6,075	10,935	341	472
			2		37.05	56.83	6.12	.44	4.75	72.35	1.23	15.11		7,072	12,730	415	
			3		39.47	60.53		.47	5.06	77.07	1.31	16.09		7,533	13,559		
Same (90 feet from entrance, weathered, 11½-foot cut).	5519	B	1	11.39	32.36	48.44	7.81	.45	5.48	62.64	1.14	22.48	3.1	5,965	10,737	341	472
			2		36.52	54.67	8.81	.51	4.75	70.69	1.29	13.95		6,732	12,118	415	
			3		40.05	59.95		.56	5.21	77.52	1.41	15.30		7,382	13,288		
Spring Creek, 14 miles north of Meeker, at Ninemile Hill, prospect (4½-foot cut).	3846	B	1	24.87	32.30	38.92	3.91	.49					15.1			316	473
			2		42.99	51.81	5.20	.65								415	
			3		45.35	54.65		.69									
Sulphur Creek, 4 miles from Meeker; Sulphur Creek mine (180 feet from entrance, 45½-inch cut).	3850	B	1	13.39	33.76	47.67	5.18	.52					4.2			316	473
			2		38.98	55.04	5.98	.60								415	
			3		41.46	58.54		.64									
Same (280 feet from entrance, 62-inch cut)......	3848	B	1	11.22	33.43	48.78	6.57	.57					6.1			316	473
			2		37.65	54.95	7.40	.64								415	
			3		40.66	59.34		.69									

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
COLORADO—Continued.																	
RIO BLANCO COUNTY—continued.																	
Sulphur Creek, Sulphur Creek mine—Continued.																	
Same (470 feet from entrance, 71-inch cut)......	3845	B	1	11.90	33.14	48.30	6.66	0.47	5.72	63.89	1.33	21.93	3.7	6,298	11,336	316	473
			2		37.62	54.82	7.56	.53	4.99	72.52	1.51	12.89		7,150	12,870	415	
			3		40.69	59.31		.58	5.40	78.45	1.63	13.94		7,733	13,919		
			4						5.43	78.91	1.64	14.02		7,765	13,977		
Thornburg, below; NW. ¼ SE. ¼ sec. 29, T. 3 N., R. 92 W., canyon of Milk Creek, Wilson's mine (37 feet from entrance, 13-foot bed, 7-foot cut).	3792	B	1	10.81	33.94	45.30	9.95	.52					3.3			316	473
			2		38.05	50.79	11.16	.58								415	
			3		42.83	57.17		.65									
ROUTT COUNTY.[a]																	
Anthracite, sec. 24, T. 8 N., R. 87 W., 18 miles northeast of Hayden, head of Miller Gulch, Keitel mine, main entry 50 feet from entrance, 49-inch cut.	1946	B	1	10.80	34.32	49.41	5.47	.58					5.7			285	474
			2		38.48	55.39	6.13	.65								297	
			3		40.99	59.01		.69									
West of; sec. 27, T. 8 N., R. 87 W., 14 miles northeast of Hayden, Crawford mine (Crawford 11-foot bed).	1902	B	1	6.94	3.42	75.61	14.03	.57	2.87	73.40	1.29	7.84	4.2	6,522	11,740	285	474
			2		3.68	81.24	15.08	.61	2.26	78.87	1.39	1.79		7,009	12,616	297	
			3		4.33	95.67		.72	2.66	92.88	1.65	2.09		8,254	14,857		
Same....................................	1937	B	1	6.85	23.84	60.00	9.31	.55					4.2			285	474
			2		25.59	64.42	9.99	.59								297	
			3		28.43	71.57		.66									
Same (main entry 140 feet from entrance, 6½-foot bed).	1936	B	1	11.74	35.31	47.36	5.59	.56					5.7			285	474
			2		40.01	53.66	6.33	.63								297	
			3		42.71	57.29		.67									
Axial, east of; on Milk Creek, Shafer mine, 119 feet in, 14+-foot bed.	3707	B	1	13.15	36.44	47.54	2.87	.57	5.48	64.12	1.07	25.89	4.9	6,326	11,390	316	475
			2		41.96	54.74	3.30	.66	4.63	73.83	1.23	16.35		7,286	13,115		
			3		43.39	56.61		.68	4.79	76.35	1.27	16.91		7,535	13,563		
			4						4.82	76.87	1.28	17.03		7,571	13,628		
Near, E. ½ sec. 30, T. 4 N., R. 95 W., on Deep Channel Creek, Keystone reservoir; 30 feet in mine, 7-foot cut.	3569	B	1	21.02	39.32	33.58	6.08	.47					5.7			316	475
			2		49.78	42.52	7.70	.59								415	
			3		53.93	46.07		.64									
Same (90 feet in mine, 7-foot cut).............	3571	B	1	19.21	34.12	40.81	5.86	.59					4.4			316	475
			2		42.23	50.52	7.25	.73								415	
			3		45.53	54.47		.78									

1 mile south of; on Spring Creek, Smith mine, 115 feet in, 8 1/12-foot bed, 5-foot cut.	3703	B	1	14.18	34.78	44.46	6.58	.56	5.81	60.62	1.01	25.42	6.3	5,838	10,508	316	475
			2	......	40.53	51.80	7.67	.65	4.93	70.64	1.18	14.93	......	6,803	12,245	415	
			3	......	43.90	56.10	......	.71	5.34	76.51	1.27	16.17	......	7,368	13,262		
			4	......	......	......	......	......	5.38	77.05	1.28	16.29	......	7,403	13,325		
1⅓ miles south of; on Spring Creek, Meeker stage road, Collom mine, 24 foot 9½-inch bed, 16½-foot cut.	3466	B	1	11.25	38.80	47.92	2.03	.32	......	......	......	......	3.5	......	......	316	476
			2	......	43.72	53.99	2.29	.36	......	......	......	......	......	......	......	415	
			3	......	44.74	55.26	......	.37	......	......	......	......	......	......	......		
4 miles south of; on Spring Creek, Meeker stage road, James mine, 100 feet in, 8-foot bed, 8-foot cut.	3704	B	1	12.01	35.83	47.54	4.62	.52	5.44	63.87	1.35	24.20	3.4	6,312	11,362	316	476
			2	......	40.72	54.03	5.25	.59	4.67	72.59	1.53	15.37	......	7,174	12,913	415	
			3	......	42.98	57.02	......	.62	4.93	76.61	1.62	16.22	......	7,571	13,628		
			4	......	......	......	......	......	4.96	77.09	1.63	16.32	......	7,604	13,687		
7 miles west of; on Morgan Gulch, Morgan mine, 20-foot bed (60 feet in, 5⅛-foot cut).	3690	B	1	15.37	35.21	43.11	6.31	.97	......	......	......	......	6.2	......	......	316	477
			2	......	41.60	50.94	7.46	1.15	......	......	......	......	......	......	......	415	
			3	......	44.96	55.04	......	1.24	......	......	......	......	......	......	......		
Same (100 feet in, 6-foot cut)......................	3688	B	1	15.26	30.70	50.33	3.71	.55	......	......	......	......	6.5	......	......	316	477
			2	......	36.23	59.39	4.38	.65	......	......	......	......	......	......	......	415	
			3	......	37.89	62.11	......	.68	......	......	......	......	......	......	......		
10 miles west of; on Boxelder Gulch, prospect pit, Upper 10-foot bed, wet sample, 9-foot cut.	3689	B	1	31.40	32.66	30.91	5.03	.33	......	......	......	......	17.6	......	......	316	477
			2	......	47.61	45.06	7.33	.48	......	......	......	......	......	......	......	415	
			3	......	51.38	48.62	......	.52	......	......	......	......	......	......	......		
Craig, 10 miles southeast of; sec. 16, T. 5 N., R. 90 W., Moore mine, 140 feet northwest of opening, Moore bed, 56-inch cut.	9134	B	1	12.43	34.09	48.01	5.47	.50	5.54	62.34	1.32	24.83	10.0	6,171	11,108	......	478
			2	......	38.93	54.82	6.25	.57	4.76	71.19	1.51	15.72	......	7,047	12,685		
			3	......	41.53	58.47	......	.61	5.07	75.94	1.61	16.77	......	7,517	13,531		
10 miles southwest of; NW. ¼ SW. ¼ sec. 29, T. 6 N., R. 91 W., Haubrich mine, 70 feet in, 82-inch bed, 55-inch cut.	*9137	B	1	17.75	30.39	48.08	3.78	.51	5.94	59.63	1.51	28.63	13.8	5,742	10,336	......	478
			2	......	36.95	58.45	4.60	.62	4.83	72.50	1.84	15.61	......	6,981	12,566		
			3	......	38.73	61.27	......	.65	5.06	75.99	1.93	16.37	......	7,317	13,171		
11 miles southwest of; SW. ¼ SE. ¼ sec. 31, T. 6 N., R. 91 W., Ratcliff mine, 60 feet in, 10-foot cut.	*9138	B	1	13.47	35.47	47.88	3.18	.34	5.82	62.94	1.20	26.52	10.2	6,116	11,009	......	479
			2	......	40.99	55.33	3.68	.39	4.99	72.73	1.39	16.82	......	7,068	12,722		
			3	......	42.56	57.44	......	.40	5.18	75.51	1.44	17.47	......	7,338	13,208		
12 miles southwest of; NW. ¼ sec. 6, T. 5 N., R. 91 W., Wise mine, Huntington Beach bed, end of 250-foot, entry 8½-foot cut.	9135	B	1	13.28	33.48	45.84	7.40	.51	5.66	60.27	1.05	25.11	10.7	5,836	10,505	......	479
			2	......	38.61	52.86	8.53	.59	4.83	69.50	1.21	15.34	......	6,729	12,112		
			3	......	42.21	57.79	......	.65	5.28	75.98	1.32	16.77	......	7,357	13,243		
Eddy, west of; on Middle Creek, sec. 12, T. 5 N., R. 86 W., Hutchinson mine, 9½-foot bed, 10 feet from surface, 5-foot cut.	1832	B	1	12.50	35.15	46.91	5.44	.42	5.83	63.25	1.43	23.63	6.2	6,137	11,047	285	480
			2	......	40.17	53.61	6.22	.48	5.07	72.29	1.63	14.31	......	7,014	12,625	297	
			3	......	42.83	57.17	......	.51	5.41	77.08	1.74	15.26	......	7,479	13,462		
			4	......	......	......	......	......	5.44	77.47	1.75	15.34	......	7,506	13,511		
7 miles southwest of; on Trout Creek, sec. 14, T. 4 N., R. 86 W., 40 feet from entrance, 6-foot bed, 5⅛-foot cut.	1831	B	1	8.59	33.85	47.30	10.26	1.50	......	......	......	......	4.1	......	......	285	480
			2	......	37.03	51.75	11.22	1.64	......	......	......	......	......	......	......	297	
			3	......	41.71	58.29	......	1.85	......	......	......	......	......	......	......		
Hamilton, 3 miles southeast of; sec. 24, T. 5 N., R. 91 W., Hamilton mine, 150 feet in, 68-inch cut.	*9136	B	1	12.47	29.66	48.08	9.79	.84	5.56	60.40	1.26	22.15	9.7	5,918	10,652	415	480
			2	......	33.89	54.92	11.19	.96	4.76	69.01	1.44	12.64	......	6,761	12,170		
			3	......	38.16	61.84	......	1.08	5.36	77.71	1.62	14.23	......	7,613	13,703		
Hayden, about 6 miles south of; on Sage Creek, sec. 36, T. 6 N., R. 88 W., Barnes mine, 300 feet from mouth, 6⅝-foot bed, 6 7/12-foot cut.	2033	B	1	11.23	37.07	47.52	4.18	1.60	......	......	......	......	4.2	......	......	285	481
			2	......	41.76	53.53	4.71	1.80	......	......	......	......	......	......	......	297	
			3	......	43.82	67.18	......	1.89	......	......	......	......	......	......	......	415	

[a] Certain cities and towns now included in Moffat County are here listed under Routt County.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
COLORADO—Continued.																	
ROUTT COUNTY—continued.																	
Hayden—Continued.																	
6 miles south of; on Sage Creek, sec. 2, T. 5 N., R. 88 W., entire 11$\frac{1}{12}$-foot bed.	2032	B	1	11.03	35.85	47.46	5.66	0.52					2.7	6,314	11,365	285	481
			2		40.29	53.35	6.36	.58						7,097	12,775	297	
			3		43.02	56.98		.62						7,579	13,642	415	
7 miles south of; NE. ¼ sec. 4, T. 5 N., R. 88 W., Dry Creek mine, 10-foot 11-inch bed, 94-inch cut.	2082	B	1	15.74	33.37	46.77	4.12	.41					9.2			285	482
			2		39.60	55.51	4.89	.49								297	
			3		41.63	58.37		.52								415	
8 miles east of; sec. 15, T. 6 N., R. 87 W., Wadge mine, Wadge 8½-foot bed (new drift).	2034	B	1	10.59	36.75	47.53	5.13	.44					4.0			285	482
			2		41.10	53.16	5.74	.49								297	
			3		43.60	56.40		.52								415	
Same (old drift, 250 feet in)	2030	B	1	9.49	37.89	47.04	5.58	.41					2.4	6,454	11,617	285	482
			2		41.86	51.97	6.17	.45						7,131	12,836	297	
			3		44.61	55.39		.48						7,599	13,578		
12 miles southwest of; on Hayden Gulch, sec. 12, T. 4 N., R. 89 W., Green mine, Green bed, 10-foot cut.	2210	B	1	11.34	34.49	49.57	4.60	.50					3.4			285	482
			2		38.90	55.91	5.19	.56								297	
			3		41.03	58.97		.59								415	
Same (7-foot cut)	9693	B	1	12.20	35.80	47.38	4.62	.44	5.51	64.99	1.41	23.03	4.8	6,320	11,376		482
			2		40.78	53.96	5.26	.50	4.73	74.02	1.61	13.88		7,198	12,956		
			3		43.04	56.96		.53	4.99	78.13	1.70	14.65		7,597	13,675		
14 miles east of; on Butcherknife Creek, sec. 1, T. 6 N., R. 87 W., Gartman mine, 30 feet from entrance, 5½-foot cut.	2031	B	1	10.92	36.53	46.73	5.82	.60					3.4			285	483
			2		41.01	52.46	6.53	.67								297	
			3		43.88	56.12		.72								415	
Lay, south of; sec. 31, T. 7 N., R. 93 W. (Peacock 9-foot bed, 7⅛-foot cut).	3461	B	1	13.31	35.18	46.53	4.98	.90					4.5			341	483
			2		40.58	53.68	5.74	1.04								285	
			3		43.05	56.95		1.10								415	
Same, Sweeney prospect (Sweeney 14$\frac{1}{12}$-foot bed, 48-inch cut).	3462	B	1	12.31	36.17	45.40	6.12	1.10	5.75	62.72	1.16	23.15	4.0	6,163	11,093	341	484
			2		41.25	51.77	6.98	1.25	4.99	71.53	1.32	13.93		7,028	12,650		
			3		44.34	55.66		1.35	5.37	76.89	1.42	14.97		7,555	13,599		
			4						5.44	77.94	1.44	15.18		7,627	13,729		
Same, Wisconsin mine (21½-foot bed, lower bench, 67-inch cut).	3463	B	1	14.65	34.73	44.48	6.14	.99	5.80	60.07	1.10	25.90	5.3	5,869	10,564	316	484
			2		40.69	52.12	7.19	1.16	4.89	70.38	1.29	15.09		6,876	12,377		
			3		43.85	56.15		1.25	5.26	75.84	1.39	16.26		7,410	13,338		
			4						5.33	76.80	1.41	16.46		7,476	13,457		

Oak Creek, south of Eddy, 12 miles northwest of Yampa, Oak Creek mine (700 feet northwest of opening, south slope, Yampa bed, 70½-inch bed).	915D	A	1	6.43	37.36	47.58	8.63	1.53	......	......	......	......	......	......	......	5	485
			2	......	39.93	50.85	9.22	1.63	......	......	......	......	......	......	......	6	
			3	......	43.99	56.01	......	1.80	......	......	......	......	......	......	......		
Same (face of main slope, 725 feet northwest of opening).	916D	A	1	6.16	38.12	47.92	7.80	1.10	......	......	......	......	......	6,707	12,073	5	485
			2	......	40.62	51.07	8.31	1.17	......	......	......	......	......	7,147	12,865	6	
			3	......	44.30	55.70	......	1.28	......	......	......	......	......	7,795	14,031		
Same (run of mine)	971D	C	1	7.53	36.36	45.46	10.65	1.51	5.29	64.90	1.41	16.24	.9	6,366	11,459	5	......
			2	......	39.32	49.16	11.52	1.63	4.81	70.19	1.52	10.33	......	6,884	12,391		
			3	......	44.43	55.57	......	1.84	5.44	79.33	1.72	11.67	......	7,780	14,004		
7 miles south of Eddy; sec. 30, T. 4 N., R. 85 W., Shuster mine (11½-foot bed, 80½-inch cut).	1799	B	1	8.85	36.06	50.19	4.90	1.51	5.69	68.59	1.54	17.77	2.3	6,756	12,161	297	485
			2	......	39.56	55.06	5.38	1.66	5.17	75.25	1.69	10.85	......	7,412	13,342	285	
			3	......	41.81	58.19	......	1.75	5.46	79.52	1.79	11.48	......	7,833	14,099	415	
			4	......	......	......	......	......	5.56	80.94	1.82	11.68	......	7,932	14,278		
Pool, 1 mile south of; sec. 9, T. 6 N., R. 86 W., McCroskey mine, (47-inch cut, lower bench).	1991	B	1	12.36	36.02	43.17	8.45	.53	......	......	......	......	3.4	......	......	297	486
			2	......	41.10	49.26	9.64	.60	......	......	......	......	......	......	......	285	
			3	......	45.49	54.51	......	.66	......	......	......	......	......	......	......	415	
Same (8 1/12-foot cut)	1843	B	1	12.03	34.51	42.79	10.67	.47	......	......	......	......	4.4	......	......	285	486
			2	......	39.23	48.64	12.13	.53	......	......	......	......	......	......	......		
			3	......	44.64	55.36	......	.60	......	......	......	......	......	......	......		
Quaker Mountain, sec. 26, T. 9 N., R. 87 W., Egeria mine, weathered (87-inch cut).	3436	B	1	30.28	38.70	25.87	5.15	.16	......	......	......	......	8.6	......	......	297	486
			2	......	55.51	37.10	7.39	.23	......	......	......	......	......	......	......	285	
			3	......	59.94	40.06	......	.25	......	......	......	......	......	......	......	415	
Slater, 5 miles east of; SE. ¼ NE. ¼ sec. 18, T. 12 N., R. 88 W., Lucksinger opening, from breast of main entry (82-inch cut).	6643	B	1	12.95	35.69	45.02	6.34	.65	5.78	61.54	1.14	24.55	6.5	5,904	10,627	381	486
			2	......	41.00	51.72	7.28	.75	4.99	70.70	1.31	14.97	......	6,783	12,209		
			3	......	44.22	55.78	......	.81	5.38	76.25	1.41	16.15	......	7,315	13,167		
WELD COUNTY.																	
Dacono, Golden Ash mine (1,100 feet west of shaft, 61-inch cut).	350D	A	1	23.50	36.24	36.06	4.20	.34	......	......	......	......	7.1	......	......	368	487
			2	......	47.37	47.14	5.49	.44	......	......	......	......	......	......	......		
			3	......	50.12	49.88	......	.47	......	......	......	......	......	......	......		
Same (1,100 feet north of shaft, 6-foot cut)	351D	A	1	24.52	34.04	37.56	3.88	.30	......	......	......	......	10.5	5,248	9,446	368	487
			2	......	45.10	49.76	5.14	.40	......	......	......	......	......	7,046	12,683		
			3	......	47.54	52.46	......	.42	......	......	......	......	......	7,330	13,194		
Same (run of mine, 33 tons)	363D	C	1	22.20	39.23	33.12	5.45	.33	6.17	55.01	.98	32.06	2.2	5,321	9,578	368	......
			2	......	50.42	42.57	7.01	.42	4.76	70.71	1.26	15.84	......	6,839	12,311		
			3	......	54.22	45.78	......	.46	5.11	76.03	1.35	17.05	......	7,355	13,239		
Eaton, 1 mile east of; sec. 32, T. 7 N., R. 65 W., Star mine (325 feet southeast of foot of shaft, 34½-inch cut).	6406	B	1	31.41	28.11	35.13	5.35	.46	6.68	45.57	.96	40.98	26.1	4,418	7,952	381	487
			2	......	40.98	51.22	7.80	.67	4.65	66.44	1.40	19.04	......	6,441	11,594		
			3	......	44.45	55.55	......	.73	5.04	72.06	1.52	20.65	......	6,986	12,575		
Erie, 3½ miles northeast of; sec. 33, T. 2 N., R. 68 W., Ideal mine, lower bench, 300 feet west of foot of slope, 100 feet of cover, 6½-foot cut.	6374	B	1	21.05	31.16	44.18	3.61	.38	6.13	56.45	1.13	32.30	12.7	5,556	10,001	381	487
			2	......	39.47	55.96	4.57	.48	4.80	71.50	1.43	17.22	......	7,037	12,667		
			3	......	41.36	58.64	......	.50	5.03	74.92	1.50	18.05	......	7,374	13,273		
1 mile northeast of; sec. 19, T. 1 N., R. 68 W. Lehigh mine (750 feet north of foot of shaft, over 100 feet below surface, 67-inch cut).	6841	B	1	22.94	29.18	44.42	3.46	.36	6.22	54.94	1.17	33.85	16.7	5,305	9,549	381	488
			2	......	37.87	57.64	4.49	.47	4.76	71.30	1.52	17.46	......	6,884	12,391		
			3	......	39.65	60.35	......	.49	4.98	74.65	1.59	18.29	......	7,208	12,974		
Fort Lupton, 8 miles west of; sec. 30, T. 2 N., R. 67 W., Warwick mine (165 feet south of foot of shaft, 54-inch cut).	6375	B	1	25.61	27.99	41.06	5.34	.36	6.27	51.81	1.11	35.11	20.7	5,101	9,182	381	488
			2	......	37.63	55.19	7.18	.48	4.60	69.65	1.49	16.60	......	6,857	12,343		
			3	......	40.54	59.46	......	.52	4.96	75.04	1.61	17.87	......	7,388	13,298		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
COLORADO—Continued.																	
WELD COUNTY—continued.																	
Greeley, 13 miles southeast of; sec. 24, T. 4 N., R. 65 W., White Ash mine (700 feet northwest of shaft, 32½-inch cut).	6371	B	1	29.13	28.52	36.53	5.82	0.30	6.55	48.95	1.03	37.35	21.9	4,667	8,401	381	488
			2	......	40.24	51.55	8.21	.42	4.67	69.07	1.45	16.18	......	6,585	11,853		
			3	......	43.84	56.16	......	.46	5.09	75.24	1.58	17.63	......	7,174	12,913		
13 miles southeast of; sec. 24, T. 4 N., R. 65 W., Farmer's mine, 500 feet south of foot of shaft, 2¾-foot cut.	6373	B	1	29.69	27.66	36.55	6.10	.35	6.47	47.16	1.06	38.86	22.9	4,486	8,075	381	489
			2	......	39.34	51.98	8.68	.50	4.51	67.07	1.51	17.73	......	6,379	11,482		
			3	......	43.08	56.92	......	.55	4.94	73.45	1.65	19.41	......	6,986	12,575		
Idaho Creek, 5 miles southeast of; sec. 34, T. 2 N., R. 68 W., Puritan mine, Main bed (8-foot 1 inch cut).	6842	B	1	24.28	27.63	44.84	3.25	.36	6.14	55.28	1.07	33.90	16.2	5,209	9,376	381	489
			2	......	36.49	59.22	4.29	.48	4.54	73.01	1.41	16.27	......	6,880	12,384		
			3	......	38.12	61.88	......	.50	4.74	76.28	1.47	17.01	......	7,188	12,938		
Platteville, sec. 29, T. 3 N., R. 66 W., Platteville mine, 5-foot bed, lower bench (200 feet west of foot of shaft under 50 feet of cover), 13-inch cut.	6407	B	1	28.12	29.82	37.84	4.22	.37	6.65	50.46	1.00	37.30	24.5	4,863	8,753	381	489
			2	......	41.49	52.64	5.87	.51	4.91	70.20	1.39	17.12	......	6,765	12,177		
			3	......	44.08	55.92	......	.54	5.22	74.58	1.48	18.18	......	7,187	12,937		
Same, upper bench (200 feet west of foot of shaft) 28-inch cut.	6408	B	1	28.90	28.83	37.25	5.02	.46	6.64	48.36	.93	38.59	24.1	4,703	8,465	381	489
			2	......	40.55	52.39	7.06	.65	4.82	68.02	1.31	18.14	......	6,615	11,907		
			3	......	43.63	56.37	......	.70	5.19	73.19	1.41	19.51	......	7,118	12,812		
GEORGIA.																	
CHATTOOGA COUNTY.																	
Menlo, 7 miles northwest of; Lookout mine, Little River bed (1,600 feet east of drift mouth, east entry 1½, 2-foot cut).	4155	A	1	2.40	18.17	70.09	9.34	1.12	......	......	......	......	1.9	......	......	332	490
			2	......	18.62	71.81	9.57	1.15	......	......	......	......	......	......	......	336	
			3	......	20.59	79.41	......	1.27	......	......	......	......	......	......	......	22	
Same (2,800 feet east of drift mouth, east entry 3, 22-inch cut).	4156	A	1	2.85	17.14	72.17	7.84	.67	......	......	......	......	2.3	7,888	14,198	332	490
			2	......	17.64	74.29	8.07	.69	......	......	......	......	......	8,119	14,614	336	
			3	......	19.19	80.81	......	.75	......	......	......	......	......	8,832	15,898	22	
Same (lump coal, over 1¼-inch perforated screen).	4320	C	1	3.80	15.88	65.83	14.49	1.27	4.32	70.59	1.09	8.24	3.2	7,106	12,791	332	......
			2	......	16.51	68.43	15.06	1.32	4.05	73.38	1.13	5.06	......	7,387	13,297		
			3	......	19.43	80.57	......	1.55	4.77	86.39	1.33	5.96	......	8,696	15,653		
			4	......	......	......	......	......	4.85	87.75	1.36	6.04	......	8,798	15,836		
IDAHO.																	
CASSIA COUNTY.																	
Burley, 25 miles from; on Goose Creek, Worthington mine, 50-inch cut.	3207	B	1	34.28	26.64	25.70	13.38	2.50	......	......	......	......	24.0	4,785	8,613	......	490
			2	......	40.54	33.10	20.36	3.80	......	......	......	......	......	7,281	13,106		
			3	......	50.91	49.09	......	4.77	......	......	......	......	......	9,143	16,457		

ILLINOIS.																	
CLINTON COUNTY.																	
Germantown, half mile east of; Southern No. 10 mine, No. 6 bed (2,100 feet north of shaft, back north entry, 4-foot 7¾-inch cut).	2856	A	1	11.64	35.41	44.29	8.66	3.41					6.7	6,272	11,290	332	491
			2		40.07	50.13	9.80	3.86						7,098	12,776	18	
			3		44.42	55.58		4.28						7,870	14,166	28	
Same (2,200 feet northwest of shaft, west entry 6, 4½-foot cut).	2857	A	1	12.15	35.60	42.97	9.28	4.01					7.6			332	
			2		40.52	48.92	10.56	4.56								18	491
			3		45.31	54.69		5.10								28	
Same (lump, over 1¼-inch screen)	2991	C	1	11.35	34.62	40.63	13.40	4.76	5.41	57.36	1.05	18.02	5.9	5,963	10,733	332	
			2		39.05	45.83	15.12	5.37	4.68	64.70	1.18	8.95		6,726	12,107		
			3		46.00	54.00		6.33	5.51	76.23	1.40	10.53		7,924	14,263		
			4						5.89	81.37	1.49	11.25		8,306	14,951		
New Baden, Southern No. 9 mine, No. 6 bed (400 feet northwest of shaft, north entry 1 off west entry 1, 7½-foot cut).	2854	A	1	13.43	33.02	44.37	9.18	3.35					10.1	6,076	10,937	332	491
			2		38.14	51.26	10.60	3.87						7,019	12,634	18	
			3		42.66	57.34		4.33						7,851	14,132	28	
Same (600 feet northeast of shaft, room 4, east entry 1 off north entry 1, 6-foot 7⅞-inch cut).	2855	A	1	12.73	33.35	44.32	9.60	3.60					9.6			332	491
			2		38.21	50.79	11.00	4.13								18	
			3		42.93	57.07		4.64								28	
Same (lump, over 5½-inch bar screen)	2972	C	1	11.44	33.93	43.92	10.71	4.94	5.39	60.06	1.02	17.88	7.4	6,088	10,958	332	
			2		38.31	49.60	12.09	5.58	4.65	67.82	1.15	8.71		6,874	12,373		
			3		43.58	56.42		6.35	5.29	77.15	1.31	9.90		7,820	14,076		
			4						5.64	82.37	1.43	10.56		8,198	14,756		
Trenton, South Trenton mine, Belleville, No. 6 bed (1,800 feet west of shaft, room 5, south entry 2 off east entry 10, 5-foot 5¼-inch cut).	4384	A	1	14.45	29.76	46.16	9.63	2.09					4.7			332	492
			2		34.79	53.95	11.26	2.44								28	
			3		39.20	60.80		2.75									
Same (2,000 feet northwest of shaft, room 1, north entry 7 off west entry 5, 4-foot 11½-inch cut).	4385	A	1	15.06	29.48	45.81	9.65	1.05					4.8	5,959	10,726	332	492
			2		34.71	53.93	11.36	1.24						7,016	12,629	28	
			3		39.16	60.84		1.40						7,915	14,247		
FRANKLIN COUNTY.																	
Benton, Benton mine, No. 6 bed, main entry (80 feet south of shaft, 9-foot 2-inch cut.)	1695	A	1	10.28	32.04	49.74	7.94	1.06					5.3			290	493
			2		35.71	55.44	8.85	1.18								18	
			3		39.18	60.82		1.29								28	
Same (100 feet north of shaft, cut 9 feet 11½ inches).	1694	A	1	9.46	33.55	48.87	8.12	1.63			1.47		5.2	6,661	11,990	290	493
			2		37.06	53.97	8.97	1.80			1.55			7,357	13,243	18	
			3		40.71	59.29		1.98			1.70			8,082	14,548	28	
Same (egg, through 6-inch screen and over 1½-inch screen).	1786	C	1	8.31	31.65	49.56	10.48	1.55	5.18	65.83	1.48	15.48	4.6	6,515	11,727	290	
			2		34.52	54.05	11.43	1.69	4.65	71.80	1.61	8.82		7,105	12,789		
			3		38.98	61.02		1.91	5.24	81.12	1.82	9.91		8,028	14,450		
			4						5.35	82.64	1.86	10.15		8,133	14,639		
Sesser, Keller mine, No. 6 bed (980 feet northwest of shaft, 6¾-foot cut).	477D	A	1	9.15	34.98	47.27	8.60	.99					1.2			5	494
			2		38.50	52.03	9.47	1.09									
			3		42.53	57.47		1.20									
Same (1,220 feet north of shaft, 6½-foot cut)	478D	A	1	8.59	32.15	51.03	8.23	1.29					1.1	6,730	12,114	5	494
			2		35.17	55.83	9.00	1.41						7,363	13,253		
			3		38.65	61.35		1.55						8,091	14,564		
Same (1½-inch screenings)	495D	C	1	8.61	33.19	46.82	11.38	.95	5.15	64.93	1.36	16.23	3.3	6,436	11,585	5	
			2		36.32	51.23	12.45	1.04	4.58	71.05	1.49	9.39		7,042	12,676		
			3		41.48	58.52		1.19	5.23	81.15	1.70	10.73		8,043	14,477		
Same (run of mine)	486D	C	1	8.12	34.46	48.79	8.63	1.13	5.26	66.44	1.33	17.21	3.6	6,702	12,064	5	
			2		37.51	53.10	9.39	1.23	4.73	72.31	1.45	10.89		7,295	13,131		
			3		41.40	58.60		1.36	5.22	79.80	1.60	12.02		8,051	14,492		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
ILLINOIS—Continued.																	
FRANKLIN COUNTY—continued.																	
West Frankfort, West Frankfort mine, No. 6 bed (slack).	1648	C	1	9.50	31.98	47.06	11.44	1.45	5.31	63.83	1.36	16.61	6.9	6,392	11,506	290	......
			2	......	35.34	52.02	12.64	1.60	4.70	70.53	1.50	9.03	......	7,063	12,713		
			3	......	40.45	59.55	......	1.83	5.38	80.74	1.72	10.33	......	8,085	14,553		
			4	......	......	......	......	......	5.49	82.24	1.75	10.52	......	8,194	14,749		
Zeigler, Zeigler mine, No. 6 bed (680 feet northwest of shaft, room 5, west entry 1, north side, 94$\frac{1}{16}$-inch cut).	1871	A	1	9.90	28.67	53.69	7.74	.48	......	......	1.47	......	5.2	6,667	12,001	290	494
			2	......	31.82	59.59	8.59	.53	......	......	1.55	......	......	7,400	13,320	18	
			3	......	34.81	65.19	......	.58	......	......	1.69	......	......	8,095	14,571	23	
Same (1,050 feet southwest of shaft, room 5, west entry 3, south side, 94$\frac{1}{16}$-inch cut).	1872	A	1	10.53	29.06	53.01	7.40	.47	......	......	......	......	5.6	......	......	290	494
			2	......	32.48	59.25	8.27	.53	......	......	......	......	......	......	......	18	
			3	......	35.41	64.59	......	.58	......	......	......	......	......	......	......	23	
Same (1,500 feet southwest of shaft, room 6, west entry 3, 11-foot 2-inch cut).	3408	A	1	9.65	30.87	53.23	6.25	.45	......	......	......	......	2.3	......	......	332	494
			2	......	34.17	58.91	6.92	.50	......	......	......	......	......	......	......		
			3	......	36.71	63.29	......	.54	......	......	......	......	......	......	......		
Same (over ¾-inch perforated screen)...........	1926	C	1	14.91	26.66	49.50	8.93	.52	5.42	62.76	1.35	21.02	9.1	6,088	10,958	290	......
			2	......	31.33	58.18	10.49	.61	4.42	73.76	1.59	9.13	......	7,155	12,879		
			3	......	35.00	65.00	......	.68	4.94	82.40	1.77	10.21	......	7,994	14,389		
			4	......	......	......	......	......	4.97	82.97	1.78	10.28	......	8,032	14,458		
Same (3-inch, over 1¼-inch screen).............	2020	C	1	10.72	29.86	50.06	9.36	.91	5.30	66.74	1.40	16.29	5.6	6,492	11,686	290	......
			2	......	33.45	56.07	10.48	1.02	4.60	74.75	1.57	7.58	......	7,271	13,088		
			3	......	37.37	62.63	......	1.14	5.14	83.51	1.75	8.46	......	8,123	14,621		
			4	......	......	......	......	......	5.20	84.47	1.77	8.56	......	8,190	14,742		
Same (run of mine)...........................	3447	C	1	9.58	29.18	50.24	11.00	.52	5.33	65.33	1.43	16.39	3.8	6,345	11,428	......	......
			2	......	32.27	55.56	12.17	.58	4.72	72.25	1.58	8.70	......	7,018	12,632		
			3	......	36.74	63.26	......	.66	5.37	82.26	1.80	9.91	......	7,991	14,384		
Same (No. 2 nut).............................	3448	C	1	9.45	29.49	51.99	9.07	.60	4.89	66.46	1.47	17.51	5.8	6,497	11,695	......	......
			2	......	32.57	57.41	10.02	.66	4.24	73.40	1.62	10.06	......	7,175	12,915		
			3	......	36.20	63.80	......	.73	4.71	81.58	1.80	11.18	......	7,974	14,353		
Same (6-inch lump)...........................	3451	C	1	8.30	30.23	50.90	10.57	.52	4.75	65.32	1.48	17.36	3.2	6,413	11,543	......	......
			2	......	32.97	55.50	11.53	.57	4.18	71.23	1.61	10.88	......	6,993	12,587		
			3	......	37.26	62.74	......	.64	4.72	80.51	1.82	12.31	......	7,904	14,227		
Same (1,600 feet south and 475 feet east of opening, east entry 6 off right entry 1, south side, 91½-inch cut).	5214	A	1	11.82	27.66	55.10	5.42	.46	5.44	67.87	1.34	19.47	4.5	6,645	11,961	......	494
			2	......	31.37	62.47	6.16	.52	4.49	76.96	1.52	10.35	......	7,535	13,565		
			3	......	33.43	66.57	......	.56	4.99	82.01	1.62	10.82	......	8,029	14,452		

Same (1,000 feet north and 550 feet west of opening, west entry 2 off right entry 1, north face, 89-inch cut).	5237	A	1	11.50	26.70	52.67	9.13	.60	5.28	65.40	1.08	18.51	6.4	6,339	11,410	......
			2	......	30.17	59.51	10.32	.68	4.52	73.89	1.22	9.37	......	7,163	12,893	
			3	......	33.64	66.36	......	.76	5.04	82.39	1.36	10.45	......	7,987	14,377	
FULTON COUNTY.																
St. David, Big Creek No. 2 mine No. 5 bed (2,200 feet northwest of opening, 53½-inch cut).	4345	A	1	15.27	32.91	41.46	10.36	3.01	......	......	......	......	11.7	......	......	......
			2	......	38.84	48.93	12.23	3.55	......	......	......	......	......	......	......	
			3	......	44.25	55.75	......	4.04	......	......	......	......	......	......	......	
Same (north entry 10, off west entry 2, 2,500 feet from mouth of drift, 53½-inch cut).	4346	A	1	15.67	31.43	43.10	9.80	2.99	......	......	......	......	8.1	5,900	10,620	......
			2	......	37.28	51.11	11.61	3.55	......	......	......	......	......	6,995	12,593	
			3	......	42.18	57.82	......	......	......	......	......	......	......	7,916	14,249	
LA SALLE COUNTY.																
La Salle, La Salle shaft mine, No. 2 bed (west entry 12 off north entry, 4,000 feet north of shaft, 39-inch cut).	1741	A	1	13.87	37.26	38.56	10.31	3.44	......	......	......	......	11.0	6,103	10,985	290
			2	......	43.26	44.77	11.97	3.99	......	......	......	......	......	7,086	12,755	18
			3	......	49.14	50.86	......	4.53	......	......	......	......	......	8,049	14,486	23
Same (east entry 3 off south entry 3, 4,000 feet southeast of shaft, 42-inch cut).	1742	A	1	15.55	36.21	40.66	7.58	3.01	......	......	......	......	11.2	......	......	290
			2	......	42.88	48.14	8.98	3.56	......	......	......	......	......	......	......	18
			3	......	47.11	52.89	3.91	......	......	......	......	......	......	......	......	23
Same (lump, over 6-inch mesh screen)........	1779	C	1	12.39	36.89	41.80	8.92	3.92	5.85	61.29	1.00	19.02	8.4	6,333	11,399	290
			2	......	42.11	47.71	10.18	4.47	5.10	69.96	1.14	9.15	......	7,229	13,012	
			3	......	46.88	53.12	......	4.98	5.68	77.89	1.27	10.18	......	8,048	14,486	
			4	......	......	......	......	......	5.98	81.97	1.34	10.71	......	8,352	15,034	
LOGAN COUNTY.																
Lincoln, Latham mine, No. 5 (58⅝-inch) bed (1,500 feet southeast of shaft, room 11, stub entry 3, 57⅝-inch cut).	2881	A	1	14.77	32.90	39.75	12.58	3.95	......	......	......	......	11.3	5,781	10,406	332
			2	......	38.60	46.64	14.76	4.63	......	......	......	......	......	6,783	12,209	18
			3	......	45.28	54.72	......	5.43	......	......	......	......	......	7,957	14,323	23
Same (1,600 feet northeast of shaft, room 1, main entry 3, main cross entry 1, northwest side).	2882	A	1	15.52	32.27	39.86	12.35	3.65	......	......	......	......	12.1	......	......	332
			2	......	38.20	47.18	14.62	4.32	......	......	......	......	......	......	......	18
			3	......	44.74	55.26	......	5.06	......	......	......	......	......	......	......	23
Same (run of mine)........................	3003	C	1	15.68	32.41	39.82	12.09	3.51	5.56	56.76	1.06	21.02	12.7	5,743	10,337	332
			2	......	38.44	47.22	14.34	4.16	4.53	67.31	1.26	8.40	......	6,811	12,260	
			3	......	44.87	55.13	......	4.86	5.29	78.58	1.47	9.80	......	7,951	14,312	
			4	......	......	......	......	......	5.56	82.59	1.54	10.31	......	8,242	14,836	
M'LEAN COUNTY.																
Chenoa, Chenoa mine (300 feet northeast of shaft, room 1, entry 1 east off north, 43-inch cut).	3044	A	1	10.25	35.88	40.11	13.76	2.80	......	......	......	......	7.6	6,194	11,149	......
			2	......	39.98	44.69	15.33	3.12	......	......	......	......	......	6,901	12,422	
			3	......	47.22	52.78	......	3.69	......	......	......	......	......	8,150	14,670	
Same (250 feet northwest of shaft, room 6, entry 4 west off north, 3½-foot cut).	3045	A	1	9.88	35.99	38.22	15.91	3.15	......	......	......	......	7.0	......	......	......
			2	......	39.93	42.42	17.65	3.50	......	......	......	......	......	......	......	
			3	......	48.49	51.51	......	4.25	......	......	......	......	......	......	......	
MACOUPIN COUNTY.																
Staunton, No. 2 mine, No. 6 bed (room 11 off north entry 1, 71⅝-inch cut).	1625	A	1	13.29	37.07	40.74	8.90	4.12	......	......	1.05	......	7.7	6,201	11,162	290
			2	......	42.75	46.99	10.26	4.75	......	......	1.13	......	......	7,151	12,872	18
			3	......	47.64	52.36	......	5.29	......	......	1.26	......	......	7,969	14,344	23
Same (main air course, 82½-inch cut)...........	1626	A	1	15.27	36.19	39.34	9.20	3.70	......	......	......	......	7.7	......	......	290
			2	......	42.71	46.43	10.86	4.37	......	......	......	......	......	......	......	18
			3	......	47.91	52.09	......	4.90	......	......	......	......	......	......	......	23

Same (1,000 feet north and 550 feet west of opening, west entry 2 off right entry 1, north face, 89-inch cut).	494
St. David, Big Creek No. 2 mine No. 5 bed (2,200 feet northwest of opening, 53½-inch cut).	495
Same (north entry 10, off west entry 2, 2,500 feet from mouth of drift, 53½-inch cut).	495
La Salle, La Salle shaft mine, No. 2 bed (west entry 12 off north entry, 4,000 feet north of shaft, 39-inch cut).	496
Same (east entry 3 off south entry 3, 4,000 feet southeast of shaft, 42-inch cut).	496
Same (lump, over 6-inch mesh screen)........	......
Lincoln, Latham mine, No. 5 (58⅝-inch) bed (1,500 feet southeast of shaft, room 11, stub entry 3, 57⅝-inch cut).	497
Same (1,600 feet northeast of shaft, room 1, main entry 3, main cross entry 1, northwest side).	497
Same (run of mine)........................	......
Chenoa, Chenoa mine (300 feet northeast of shaft, room 1, entry 1 east off north, 43-inch cut).	497
Same (250 feet northwest of shaft, room 6, entry 4 west off north, 3½-foot cut).	497
Staunton, No. 2 mine, No. 6 bed (room 11 off north entry 1, 71⅝-inch cut).	498
Same (main air course, 82½-inch cut)...........	498

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
ILLINOIS—Continued.																	
MACOUPIN COUNTY—continued.																	
Staunton, No. 2 mine—Continued. Same (run of mine)	1635	C	1	13.54	35.69	40.03	10.74	4.03	5.71	58.69	0.95	19.88	9.0	6,004	10,807	290	......
			2	......	41.28	46.30	12.42	4.66	4.87	67.88	1.10	9.07	......	6,944	12,499		
			3	......	47.13	52.87	......	5.32	5.56	77.51	1.25	10.36	......	7,929	14,272		
			4	......	......	......	......	......	5.87	81.87	1.33	10.93	......	8,248	14,846		
Same (lump)	1639	C	1	13.72	36.24	39.72	10.32	3.96	5.74	58.95	.98	20.05	10.1	6,039	10,870	290	......
			2	......	42.00	46.04	11.96	4.59	4.89	68.32	1.14	9.10	......	6,999	12,598		
			3	......	47.70	52.30	......	5.21	5.56	77.61	1.29	10.33	......	7,950	14,310		
			4	......	......	......	......	......	5.86	81.88	1.36	10.90	......	8,264	14,875		
Same (slack)	4247	C	1	15.25	28.57	40.83	15.35	3.81	5.22	53.95	.82	20.85	13.3	5,439	9,790	332	......
			2	......	33.71	48.18	18.11	4.50	4.16	63.66	.97	8.60	......	6,418	11,551		
			3	......	41.16	58.84	......	5.50	5.08	77.74	1.18	10.50	......	7,837	14,105		
No. 1 mine, No. 6 bed, uninspected shipment of screenings, through 1½-inch screen.	2731	C	1	14.68	31.32	40.32	13.68	3.88	5.41	55.21	1.00	20.82	12.4	5,585	10,053	332	......
			2	......	36.71	47.26	16.03	4.55	4.43	64.71	1.17	9.11	......	6,546	11,782		
			3	......	43.72	56.28	......	5.42	5.28	77.05	1.39	10.86	......	7,796	14,031		
MADISON COUNTY.																	
Collinsville, No. 1 mine, No. 6 bed, No. 5 slack, washed, 18 tons.	1556	C	1	17.02	30.60	35.59	16.79	3.29	5.50	50.77	......	......	12.5	5,177	9,319	261	......
			2	......	36.88	42.89	20.23	3.96	4.35	61.18	......	......	......	6,239	11,230	48	
			3	......	46.23	53.77	......	4.97	5.30	76.70	......	......	......	7,821	14,078		
Near; Lumaghi No. 2 mine, No. 6 bed (room 17, north entry, 8½-foot cut).	1608A	A	1	12.27	37.22	39.16	11.35	4.66	......	......	......	......	5.9	......	......	290	498
			2	......	42.43	44.63	12.94	5.31	......	......	......	......	......	......	......	18	
			3	......	48.74	51.26	......	6.10	......	......	......	......	......	......	......	22	
Same (room 14, south entry, 95-inch cut)	1609	A	1	11.87	36.57	39.98	11.58	4.75	......	......	1.02	......	5.9	5,982	10,768	290	498
			2	......	41.50	45.36	13.14	5.39	......	......	1.16	......	......	6,788	12,218	18	
			3	......	47.78	52.22	......	6.21	......	......	1.33	......	......	7,815	14,067	22	
Same (nut, over 1-inch screen)	1611	C	1	11.46	34.98	36.25	17.31	4.40	5.05	54.56	.94	17.74	5.0	5,570	10,026	290	......
			2	......	39.51	40.94	19.55	4.97	4.27	61.62	1.06	8.53	......	6,291	11,324		
			3	......	49.11	50.89	......	6.18	5.31	76.60	1.32	10.59	......	7,820	14,076		
			4	......	......	......	......	......	5.66	81.64	1.40	11.30	......	8,186	14,735		
Same (run of mine)	1780	C	1	10.83	36.24	39.75	13.18	4.53	5.35	58.59	.99	17.36	3.5	6,009	10,816	290	......
			2	......	40.64	44.58	14.78	5.08	4.65	65.71	1.11	8.67	......	6,739	12,130		
			3	......	47.69	52.31	......	5.96	5.46	77.10	1.30	10.18	......	7,908	14,234		
			4	......	......	......	......	......	5.81	81.99	1.39	10.81	......	8,266	14,879		

Collinsville, No. 2 mine, car of slack	1722	C	1	10.69	33.08	36.14	20.09	4.06	4.95	53.40	.89	16.61	7.6	5,396	9,713	......	......
			2	......	37.04	40.47	22.49	4.55	4.21	59.79	1.00	7.96	......	6,042	10,876		
			3	......	47.79	52.21	......	5.87	5.43	77.14	1.29	10.27	......	7,795	14,031		
Donkville, No. 1 mine, No. 6 bed (3,800 feet northeast of shaft, north entry 5 off east entry 6, 68½-inch cut).	2774	A	1	13.07	34.85	42.02	10.06	3.59	......	......	......	......	8.9	6,083	10,949	332	499
			2	......	40.09	48.34	11.57	4.13	......	......	......	......	......	6,998	12,596	18	
			3	......	45.33	54.67	......	4.67	......	......	......	......	......	7,913	14,243	28	
Same (4,000 feet northwest of shaft, north entry 5 off west entry 6, 46½-inch cut).	2775	A	1	12.79	35.67	40.25	11.29	3.94	......	......	......	......	9.7	......	......	332	499
			2	......	40.90	46.15	12.95	4.52	......	......	......	......	......	......	......	18	
			3	......	46.99	53.01	......	5.19	......	......	......	......	......	......	......	28	
Same (lump, over 5-inch screen)	2819	C	1	13.47	34.35	40.65	11.53	4.41	5.63	57.61	.91	19.91	11.5	5,839	10,510	332	......
			2	......	39.70	46.98	13.32	5.10	4.77	66.58	1.05	9.18	......	6,748	12,126		
			3	......	45.80	54.20	......	5.88	5.51	76.81	1.21	10.59	......	7,785	14,013		
			4	......	......	......	......	......	5.84	81.62	1.29	11.25	......	8,133	14,639		
Same (slack, through 2-inch screen)	2803	C	1	15.68	31.28	37.45	15.59	3.98	5.42	52.89	.90	21.22	13.2	5,364	9,655	332	......
			2	......	37.10	44.41	18.49	4.72	4.36	62.72	1.07	8.64	......	6,361	11,450		
			3	......	45.51	54.49	......	5.79	5.35	76.95	1.31	10.60	......	7,805	14,049		
			4	......	......	......	......	......	5.68	81.68	1.39	11.25	......	8,143	14,657		
Livingston, New Staunton mine, No. 6 bed (1,600 feet south of shaft, south entry 6, 82½-inch cut).	3911	A	1	14.25	35.52	40.79	9.44	3.72	......	......	......	......	2.7	6,051	10,892	332	500
			2	......	41.42	47.57	11.01	4.34	......	......	......	......	......	7,057	12,703	18	
			3	......	46.54	53.46	......	4.88	......	......	......	......	......	7,929	14,272	28	
Same (1,200 feet northwest of shaft, back west entry, 76½-inch cut).	3913	A	1	12.69	37.40	41.15	8.76	3.62	......	......	......	......	2.3	6,242	11,236	332	500
			2	......	42.84	47.13	10.03	4.15	......	......	......	......	......	7,149	12,868	18	
			3	......	47.62	52.38	......	4.61	......	......	......	......	......	7,947	14,305	28	
Same (screenings, through 2-inch screen)	3963	C	1	13.10	30.78	40.12	16.00	4.17	5.26	54.26	.89	19.42	8.6	5,546	9,983	332	......
			2	......	35.42	46.17	18.41	4.80	4.37	62.44	1.02	8.96	......	6,382	11,488		
			3	......	43.40	56.60	......	5.88	5.36	76.53	1.26	10.97	......	7,822	14,080		
			4	......	......	......	......	......	5.69	81.31	1.33	11.67	......	8,170	14,706		
Same (run of mine, sample 1)	3958	C	1	12.47	33.12	41.85	12.56	4.37	5.37	57.17	1.00	19.53	7.3	5,926	10,667	332	......
			2	......	37.84	47.81	14.35	4.99	4.55	65.31	1.14	9.66	......	6,770	12,186		
			3	......	44.18	55.82	......	5.83	5.31	76.26	1.33	11.27	......	7,905	14,229		
			4	......	......	......	......	......	5.64	80.98	1.42	11.96	......	8,255	14,859		
Same (run of mine, sample 2)	3980	C	1	12.25	33.76	41.66	12.33	4.42	5.44	58.30	.80	18.71	5.5	5,955	10,719	332	......
			2	......	38.47	47.48	14.05	5.04	4.65	66.44	.91	8.91	......	6,786	12,215		
			3	......	44.76	55.24	......	5.86	5.41	77.30	1.06	10.37	......	7,896	14,213		
			4	......	......	......	......	......	5.75	82.11	1.13	11.01	......	8,248	14,846		
Maryville, No. 2 mine, No. 6 bed (3,000 feet south of shaft, main south entry, 97-inch cut).	2772	A	1	13.51	34.64	41.70	10.15	4.01	......	......	......	......	9.2	6,045	10,881	332	501
			2	......	40.05	48.21	11.74	4.64	......	......	......	......	......	6,989	12,580	18	
			3	......	45.38	54.62	......	5.26	......	......	......	......	......	7,919	14,254	28	
Same (2,500 feet north of shaft, east entry 9, 95½-inch cut).	2773	A	1	13.83	34.16	42.24	9.77	4.10	......	......	......	......	9.9	......	......	332	501
			2	......	39.64	49.02	11.34	4.76	......	......	......	......	......	......	......	18	
			3	......	44.71	55.29	......	5.38	......	......	......	......	......	......	......	28	
Same (lump, over 4-inch screen)	2905	C	1	11.91	35.65	39.43	13.01	5.34	5.21	57.35	1.00	18.09	5.9	5,897	10,615	332	......
			2	......	40.47	44.76	14.77	6.06	4.42	65.10	1.14	8.51	......	6,694	12,049		
			3	......	47.48	52.52	......	7.11	5.18	76.38	1.33	10.00	......	7,854	14,137		
			4	......	......	......	......	......	5.58	82.24	1.43	10.75	......	8,283	14,909		
Same (nut, pea, and slack, through 2-inch screen).	2896	C	1	13.03	32.65	39.79	14.53	4.35	5.25	55.94	.89	19.04	11.2	5,662	10,192	332	......
			2	......	37.54	45.75	16.71	5.01	4.37	64.32	1.02	8.58	......	6,510	11,718		
			3	......	45.07	54.93	......	6.01	5.25	77.23	1.23	10.28	......	7,816	14,069		
			4	......	......	......	......	......	5.58	82.17	1.31	10.94	......	8,173	14,711		
Troy, 1 mile west of; No. 3 mine, No. 6 bed (room 15 off west entry 5, north side of shaft, 62-inch cut).	1341	A	1	15.09	31.00	46.49	7.42	.83	......	......	......	......	3.2	6,195	11,151	18	502
			2	......	36.51	54.75	8.74	.98	......	......	......	......	......	7,296	13,133	28	
			3	......	40.01	59.99	......	1.15	......	......	......	......	......	7,994	14,389	48	

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
ILLINOIS—Continued.																	
MADISON COUNTY—continued.																	
Troy, No. 3 mine—Continued.																	
Same (room 16 off east entry 5, south side of shaft, 60½-inch cut).	1342	A	1	14.42	32.18	44.59	8.81	1.52	......	......	......	......	3.0	......	......	**18**	502
			2	......	37.60	52.11	10.29	1.78	......	......	......	......	......	......	......	**28**	
			3	......	41.91	58.09	......	1.98	......	......	......	......	......	......	......	*48*	
Same (lump, over 2-inch screen, 22 tons)	1417	C	1	12.91	31.90	43.55	11.64	1.32	5.43	60.74	1.15	19.72	1.7	6,002	10,804	261	......
			2	......	36.63	50.00	13.37	1.52	4.59	69.74	1.32	9.46	......	6,892	12,406	*48*	
			3	......	42.28	57.72	......	1.75	5.30	80.50	1.52	10.93	......	7,955	14,319		
			4	......	......	......	......	......	5.40	81.94	1.55	11.11	......	8,056	14,501		
Same (1,500 feet southeast of shaft, room 22 off east entry 5, south side, 54-inch cut).	2770	A	1	15.23	31.42	44.32	9.03	1.59	......	......	......	......	10.5	6,056	10,901	332	502
			2	......	37.06	52.29	10.65	1.88	......	......	......	......	......	7,144	12,859	**18**	
			3	......	41.48	58.52	......	2.10	......	......	......	......	......	7,998	14,396	**28**	
Same (800 feet northwest of shaft, room 26 off west entry 3, north side, 5½-foot cut).	2771	A	1	17.79	28.78	42.34	11.09	1.40	......	......	......	......	13.3	......	......	332	502
			2	......	35.01	51.50	13.49	1.70	......	......	......	......	......	......	......	**18**	
			3	......	40.47	59.53	......	1.97	......	......	......	......	......	......	......	**28**	
Same (lump, over 2½-inch screen, sample 1)	2852	C	1	15.54	31.26	42.27	10.93	1.38	5.59	58.02	1.09	22.99	10.4	5,837	10,507	332	......
			2	......	37.01	50.05	12.94	1.63	4.57	68.69	1.29	10.88	......	6,910	12,438		
			3	......	42.51	57.49	......	1.88	5.25	78.91	1.48	12.48	......	7,938	14,288		
			4	......	......	......	......	......	5.35	80.42	1.51	12.72	......	8,048	14,486		
Same (lump, over 2½-inch screen, sample 2)	2920	C	1	15.30	30.59	43.40	10.71	1.43	......	......	......	......	8.2	......	......	332	......
			2	......	36.12	51.24	12.64	1.69	......	......	......	......	......	......	......		
			3	......	41.35	58.65	......	1.93	......	......	......	......	......	......	......		
MARION COUNTY.																	
Centralia, South mine, No. 6 bed (3,000 feet southeast of shaft, east entry 16, 84-inch cut).	1725	A	1	10.25	37.43	39.79	12.53	3.70	......	......	......	......	7.2	6,154	11,077	290	503
			2	......	41.70	44.34	13.96	4.12	......	......	......	......	......	6,857	12,343	**18**	
			3	......	48.46	51.54	......	4.79	......	......	......	......	......	7,969	14,344	**28**	
Same (4,500 feet southwest of shaft, south entry 14, 5-foot 4½-inch cut).	1726	A	1	11.88	35.84	43.45	8.83	3.25	......	......	......	......	7.8	......	......	290	503
			2	......	40.67	49.31	10.02	3.69	......	......	......	......	......	......	......	**18**	
			3	......	45.21	54.79	......	4.10	......	......	......	......	......	......	......	**28**	
Same (lump, over 6-inch screen)	1761	C	1	9.95	34.76	42.06	13.23	3.87	5.25	59.64	1.04	16.97	4.2	6,089	10,960	290	......
			2	......	38.60	46.71	14.69	4.30	4.60	66.23	1.15	9.03	......	6,762	12,172		
			3	......	45.25	54.75	......	5.04	5.39	77.63	1.35	10.59	......	7,926	14,267		
			4	......	......	......	......	......	5.67	81.75	1.43	11.15	......	8,228	14,810		

MONTGOMERY COUNTY.																	
Coffeen, Coffeen mine, No. 6 bed (1,500 feet northwest of shaft, right entry 2, 89-inch cut).	1661	A	1	12.90	33.77	42.25	11.08	3.78	......	......	......	......	6.6	6,031	10,856	290	504
			2	......	38.77	48.51	12.72	4.34	......	......	......	......	......	6,924	12,463		
			3	......	44.42	55.58	......	4.97	......	......	......	......	......	7,933	14,279		
Same (room 21 off left entry 6, 90-inch cut)....	1449	A	1	14.89	34.80	42.44	7.87	3.61	......	......	......	......	5.6	6,120	11,016	18	504
			2	......	40.89	49.86	9.25	4.24	......	......	......	......	......	7,191	12,944	28	
			3	......	45.06	54.94	......	4.67	......	......	......	......	......	7,923	14,261	*48*	504
Same (room 18 off right entry 4, 93-inch cut)...	1450	A	1	13.94	33.93	41.22	10.91	3.79	......	......	......	......	4.0	......	......	18	
			2	......	39.43	47.89	12.68	4.40	......	......	......	......	......	......	......	28	
			3	......	45.15	54.85	......	5.04	......	......	......	......	......	......	......	*48*	
Same (run of mine, 17 tons)................	1557	C	1	14.43	29.48	42.81	13.28	4.01	5.49	54.59	1.11	21.52	9.8	5,591	10,064	261	......
			2	......	34.45	50.03	15.52	4.69	4.55	63.79	1.30	10.15	......	6,534	11,761		
			3	......	40.78	59.22	......	5.55	5.38	75.51	1.54	12.02	......	7,734	13,921	*48*	
			4	......	......	......	......	......	5.70	79.95	1.63	12.72	......	8,057	14,503		
Same (run of mine)........................	1702	C	1	11.93	29.99	43.90	14.18	4.29	5.21	56.94	1.01	18.37	8.1	5,724	10,303		
			2	......	34.05	49.85	16.10	4.87	4.41	64.65	1.15	8.82	......	6,499	11,698	290	......
			3	......	40.58	59.42	......	5.81	5.25	77.06	1.37	10.51	......	7,746	13,943		
			4	......	......	......	......	......	5.58	81.81	1.45	11.16	......	8,085	14,553		
Paisley, Paisley mine, nut coal.....................	1627	C	1	13.20	34.33	39.94	12.53	4.47	5.51	57.25	1.02	19.22	4.4	5,841	10,514		
			2	......	39.55	46.01	14.44	5.15	4.65	65.96	1.18	8.62	......	6,729	12,112	290	......
			3	......	46.23	53.77	......	6.02	5.44	77.08	1.37	10.09	......	7,864	14,155		
			4	......	......	......	......	......	5.79	82.02	1.46	10.73	......	8,223	14,801		
ST. CLAIR COUNTY.																	
O'Fallon, 5¼ miles southwest of; No. 1 mine, Belleville, No. 6 bed (1,200 feet north of shaft, 73½-inch cut).	1095	A	1	11.17	39.31	39.20	10.32	4.22	......	......	.88	......	4.4	6,235	11,223	438	505
			2	......	44.25	44.13	11.62	4.75	......	......	.99	......	......	7,019	12,634	*48*	
			3	......	50.07	49.93	......	5.37	......	......	1.12	......	......	7,942	14,296	28	
Same (1,200 feet south of shaft, 80½-inch cut)....	1096	A	1	10.06	40.33	39.54	10.07	4.04	......	......	......	......	3.2	......	......	438	505
			2	......	44.84	43.96	11.20	4.49	......	......	......	......	......	......	......	28	
			3	......	50.49	49.51	......	5.06	......	......	......	......	......	......	......		
Same (lump and nut, over 1-inch screen, 15 tons).	1261	C	1	9.75	37.48	39.57	13.20	4.10	5.31	59.72	1.03	16.64	3.7	6,125	11,025	261	......
			2	......	41.53	43.84	14.63	4.54	4.69	66.17	1.14	8.83	......	6,787	12,217	*48*	
			3	......	48.65	51.35	......	5.32	5.49	77.51	1.34	10.34	......	7,950	14,310		
			4	......	......	......	......	......	5.80	81.86	1.41	10.93	......	8,270	14,886		
Same (slack, 14 tons).....................	1152	C	1	12.03	31.86	33.67	22.44	4.00	5.04	50.22	.72	17.58	7.1	5,083	9,149	261	......
			2	......	36.22	38.27	25.51	4.55	4.21	57.09	.82	7.82	......	5,778	10,400	*48*	
			3	......	48.63	51.37	......	6.10	5.65	76.64	1.10	10.51	......	7,757	13,963		
			4	......	......	......	......	......	6.01	81.62	1.17	11.20	......	8,115	14,607		
Shiloh, No. 8 mine, No. 6 bed (900 feet southwest of shaft, cross cut off west entry 1, south side, 79½-inch cut).	3910	A	1	10.73	39.60	40.41	9.26	4.12	......	......	......	......	2.3	......	......	332	505
			2	......	44.36	45.27	10.37	4.62	......	......	......	......	......	......	......	18	
			3	......	49.49	50.51	......	5.15	......	......	......	......	......	......	......	28	
Same (800 feet northeast of shaft, east entry 3, 65⁵⁄₁₆-inch cut.)	3912	A	1	9.88	42.26	37.05	10.81	3.83	......	......	......	......	2.2	6,355	11,439	332	505
			2	......	46.89	41.12	11.99	4.25	......	......	......	......	......	7,052	12,694	18	
			3	......	53.28	46.72	......	4.83	......	......	......	......	......	8,013	14,423	28	
Same (nut coal, through 3-inch and over 2-inch shaking screen).	4364	C	1	11.69	35.70	39.42	13.19	4.38	5.46	57.15	.94	18.88	8.7	5,944	10,699	332	......
			2	......	40.43	44.63	14.94	4.96	4.71	64.72	1.06	9.61	......	6,731	12,116		
			3	......	47.52	52.48	......	5.83	5.54	76.08	1.25	11.30	......	7,913	14,243		
			4	......	......	......	......	......	5.88	80.79	1.33	12.00	......	8,263	14,873		
Worden, Worden mine, No. 6 bed (900 feet west and 850 feet south of shaft, 6½-foot cut).	4250	A	1	13.17	34.79	41.75	10.29	3.22	......	......	......	......	8.0	......	......	332	......
			2	......	40.07	48.08	11.85	3.71	......	......	......	......	......	......	......	28	
			3	......	45.46	54.54	......	4.21	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample. Laboratory No.	Sample. Kind.	Sample. Condition.	Proximate. Moisture.	Proximate. Volatile matter.	Proximate. Fixed carbon.	Proximate. Ash.	Ultimate. Sulphur.	Ultimate. Hydrogen.	Ultimate. Carbon.	Ultimate. Nitrogen.	Ultimate. Oxygen.	Air-drying loss.	Calorific value. Calories.	Calorific value. British thermal units.	Reference. Bulletin No.	Reference. Page of this bulletin.
ILLINOIS—Continued.																	
ST. CLAIR COUNTY—continued.																	
Worden, Worden mine—Continued.																	
Same (1,600 feet north and 300 feet west of shaft, 86½-inch cut).	4251	A	1	14.38	33.92	42.95	8.75	3.13	......	......	......	......	9.4	6,032	10,858	332	506
			2	......	39.62	50.16	10.22	3.66	......	......	......	......	......	7,045	12,681	28	
			3	......	44.13	55.87	......	4.08	......	......	......	......	......	7,847	14,125		
Same (screenings through 1¼-inch screen)......	4376	C	1	13.10	32.16	41.49	13.25	3.66	5.44	57.31	1.03	19.31	9.7	5,774	10,393	332	......
			2	......	37.01	47.74	15.25	4.21	4.58	65.95	1.19	8.82	......	6,644	11,959		
			3	......	43.67	56.33	......	4.97	5.40	77.82	1.40	10.41	......	7,840	14,112		
			4	......	......	......	......	......	5.69	81.88	1.47	10.96	......	8,133	14,639		
SALINE COUNTY.																	
Harrisburg, No. 9 mine, No. 5 bed (2,000 feet southwest of shaft, room 25 off west entry 4, south side, 85⅞-inch cut).	4413	A	1	7.55	33.85	51.45	7.15	1.56	......	......	......	......	4.2	......	......	332	507
			2	......	36.61	55.66	7.73	1.69	......	......	......	......	......	......	......	336	
			3	......	39.68	60.32	......	1.83	......	......	......	......	......	......	......	28	
Same (1,000 feet north and 200 feet east of shaft, east entry 4. north side, 81⅞-inch cut).	4414	A	1	7.51	32.81	52.20	7.48	1.58	......	......	......	......	5.3	7,048	12,686	332	507
			2	......	35.47	56.44	8.09	1.71	......	......	......	......	......	7,620	13,716	336	
Same, 1,200 feet northeast of shaft in room 3, off east entry 6.	7421	A	3	......	38.59	61.41	......	1.86	......	......	......	......	......	8,291	14,924	28	
			1	7.40	31.28	54.74	6.58	......	......	......	......	......	4.3	......	......	......	507
			2	......	33.78	59.11	7.11	......	......	......	......	......	......	......	......		
Same, 3,000 feet southwest of shaft, off west entry 4.	7420	A	3	......	36.36	63.64	......	......	......	......	......	......	......	......	......		
			1	6.98	31.64	53.41	7.97	......	......	......	......	......	3.8	......	......	......	507
			2	......	34.01	57.42	8.57	......	......	......	......	......	......	......	......		
			3	......	37.20	62.80	......	......	......	......	......	......	......	......	......		
Same (run of mine)......	4622	C	1	7.81	33.54	50.27	8.38	2.36	5.31	67.40	1.44	15.11	5.8	6,899	12,418	332	......
			2	......	36.38	54.53	9.09	2.56	4.82	73.11	1.56	8.86	......	7,483	13,469		
			3	......	40.02	59.98	......	2.82	5.30	80.42	1.72	9.74	......	8,232	14,818		
			4	......	......	......	......	......	5.45	82.75	1.77	10.03	......	8,405	15,129		
Same (screenings, through 1¼-inch screen)......	4636	C	1	9.33	30.92	47.86	11.89	2.76	5.12	62.85	1.29	16.09	6.6	6,429	11,572	332	......
			2	......	34.10	52.79	13.11	3.04	4.50	69.32	1.42	8.61	......	7,091	12,764		
			3	......	39.25	60.75	......	3.50	5.18	79.78	1.64	9.90	......	8,161	14,690		
			4	......	......	......	......	......	5.37	82.67	1.70	10.26	......	8,375	15,075		
No. 4 mine, No. 5 bed, 74¼ inches (south entry 8 off main east entry).	7501	A	1	6.01	32.37	54.32	7.30	1.66	5.27	71.63	1.34	12.80	3.7	7,107	12,793	6	508
			2	......	34.44	57.79	7.77	1.77	4.89	76.21	1.43	7.93	......	7,561	13,610		
			3	......	37.34	62.66	......	1.92	5.30	82.63	1.55	8.60	......	8,198	14,756		
Same (north entry 2 off main east right entry)	7502	A	1	5.56	34.41	51.31	8.72	2.87	5.16	68.75	1.30	13.20	3.6	7,024	12,643	6	508
			2	......	36.44	54.33	9.23	3.04	4.81	72.80	1.38	8.74	......	7,437	13,386		
			3	......	0.154	59.85	......	3.35	5.30	80.20	1.52	3.69	......	8,193	4,747		

SANGAMON COUNTY.																	
Auburn, Auburn-Alton mine, No. 6 bed (2,000 feet southeast of shaft, south entry 7, 6-foot 6¾-inch cut).	2897	A	1	14.29	37.17	40.36	8.18	4.41	......	......	......	......	10.2	6,115	11,007	332	508
			2	......	43.37	47.09	9.54	5.15	......	......	......	......	......	7,134	12,841	18	
			3	......	47.95	52.05	......	5.69	......	......	......	......	......	7,887	14,197	23	
Same (1,400 feet south of shaft, south entry 1, 6-foot 8¾-inch cut).	2898	A	1	14.18	34.85	41.11	9.86	4.36	......	......	......	......	10.5	......	......	332	508
			2	......	40.61	47.90	11.49	5.08	......	......	......	......	......	......	......	18	
			3	......	45.88	54.12	......	5.74	......	......	......	......	......	......	......	23	
Same (run of mine)...........................	3052	C	1	16.00	32.41	37.82	13.77	4.05	5.55	53.89	.91	21.83	10.0	5,522	9,940	332	......
			2	......	38.58	45.03	16.39	4.82	4.49	64.16	1.08	9.06	......	6,574	11,833		
			3	......	46.15	53.85	......	5.77	5.37	76.73	1.30	10.83	......	7,863	14,153		
			4	......	......	......	......	......	5.69	81.43	1.38	11.50	......	8,206	14,771		
Springfield, east side of; No. 2 mine, No. 5 bed (1 mile southeast of shaft, room 30 off south entry 21, 69¼-inch cut).	1704	A	1	13.89	33.96	40.89	11.26	3.83	......	......	1.03	......	10.8	5,909	10,636	290	509
			2	......	39.43	47.49	13.08	4.45	......	......	1.20	......	......	6,862	12,352	18	
			3	......	45.36	54.64	......	5.12	......	......	1.38	......	......	7,894	14,209	23	
Same (4,000 feet northeast of shaft, entry 16 off stub entry 4, 71¾-inch cut).	1705	A	1	14.45	34.79	40.10	10.66	3.46	......	......	......	......	11.2	......	......	290	509
			2	......	40.67	46.87	12.46	4.04	......	......	......	......	......	......	......	18	
			3	......	46.46	53.54	......	4.61	......	......	......	......	......	......	......	23	
Same (lump, over 1½-inch bar screen)..........	1740	C	1	12.77	34.08	40.77	11.78	4.16	5.49	58.74	1.09	18.74	8.0	5,976	10,757	290	......
			2	......	39.76	46.74	13.50	4.77	4.67	67.34	1.25	8.47	......	6,851	12,332		
			3	......	45.97	54.03	......	5.51	5.39	77.85	1.44	9.81	......	7,921	14,258		
			4	......	......	......	......	......	5.71	82.40	1.53	10.36	......	8,251	14,852		
WILLIAMSON COUNTY.																	
Bush, Bush No. 1 mine, No. 6 bed (1,000 feet northeast of shaft, room 10 off east entry 1 60-inch cut).	1683	A	1	8.29	31.19	49.69	10.83	2.81	......	......	1.16	......	5.2	6,576	11,837	290	510
			2	......	34.01	54.18	11.81	3.06	......	......	1.26	......	......	7,170	12,906	332	
			3	......	38.56	61.44	......	3.47	......	......	1.43	......	......	8,131	14,636	23	
Same (1,000 feet northwest of shaft, north entry 1, 75-inch cut).	1688	A	1	8.41	34.27	45.44	11.88	3.63	......	......	......	......	5.6	......	......	290	510
			2	......	37.42	49.61	12.97	3.96	......	......	......	......	......	......	......	332	
			3	......	43.00	57.00	......	4.55	......	......	......	......	......	......	......	23	
Same (run of mine)...........................	1762	C	1	8.20	32.26	46.59	12.95	3.48	5.09	62.52	1.10	14.86	3.6	6,312	11,362	290	......
			2	......	35.14	50.75	14.11	3.79	4.55	68.10	1.20	8.25	......	6,876	12,377		
			3	......	40.91	59.09	......	4.41	5.30	79.29	1.40	9.60	......	8,005	14,409		
			4	......	......	......	......	......	5.53	82.95	1.46	10.06	......	8,271	14,888		
Same (No. 5 washed, uninspected, sample 1)...	3907	C	1	12.61	30.08	46.81	10.50	2.37	5.37	62.15	.93	18.68	9.0	6,148	11,066	332	......
			2	......	34.42	53.56	12.02	2.71	4.54	71.12	1.06	8.55	......	7,035	12,663		
			3	......	39.12	60.88	......	3.08	5.16	80.83	1.20	9.73	......	7,996	14,393		
Same (No. 5 washed, uninspected, sample 2)..	4083	C	1	15.31	28.93	45.29	10.47	2.31	5.61	59.88	1.04	20.68	12.4	6,011	10,820	332	......
			2	......	34.16	53.48	12.36	2.74	4.62	70.71	1.22	8.35	......	7,098	12,776		
			3	......	38.98	61.02	......	3.13	5.27	80.68	1.39	9.53	......	8,099	14,578		
Same (No. 5 washed, uninspected, sample 3)...	4201	C	1	15.87	28.19	46.42	9.52	2.34	5.60	59.66	1.06	21.82	13.3	5,991	10,784	332	......
			2	......	33.51	55.17	11.32	2.78	4.56	70.91	1.26	9.17	......	7,121	12,818		
			3	......	37.79	62.21	......	3.13	5.14	79.96	1.42	10.35	......	8,030	14,454		
Carterville, near; Daw's shaft, Big Muddy bed (north entry off straight west heading, cut 8 feet 10¾ inches).	1634	A	1	8.30	33.75	48.69	9.26	2.82	......	......	......	......	4.9	6,666	11,999	290	511
			2	......	36.80	53.10	10.10	3.08	......	......	......	......	......	7,269	13,084	18	
			3	......	40.93	59.07	......	3.43	......	......	......	......	......	8,086	14,555	23	
Same (mixed screenings and egg coal)..........	1654	C	1	7.76	31.44	50.19	10.61	1.97	5.14	66.55	1.32	14.41	4.8	6,643	11,957	290	......
			2	......	34.08	54.42	11.50	2.14	4.64	72.15	1.43	8.14	......	7,202	12,964		
			3	......	38.51	61.49	......	2.41	5.24	81.52	1.62	9.21	......	8,138	14,648		
			4	......	......	......	......	......	5.37	83.54	1.66	9.43	......	8,284	14,911		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
ILLINOIS—Continued.																	
WILLIAMSON COUNTY—continued.																	
Carterville, Daw's shaft—Continued.																	
Same (mixed run-of-mine and lump coal)	1660	C	1	8.86	31.25	48.23	11.66	2.46	5.24	64.29	1.29	15.06	5.8	6,501	11,702	290	......
			2	......	34.29	52.92	12.79	2.70	4.67	70.54	1.42	7.88	......	7,133	12,839		
			3	......	39.32	60.68	......	3.10	5.36	80.89	1.62	9.03	......	8,180	14,724		
			4	......	......	......	......	......	5.53	83.47	1.68	9.32	......	8,369	15,064		
Same (sizes 4 and 5 mixed, washed)	1718	C	1	8.61	32.40	51.33	7.66	1.65	5.38	68.14	1.34	15.83	6.4	6,798	12,236	290	......
			2	......	35.45	56.17	8.38	1.81	4.84	74.56	1.47	8.94	......	7,438	13,388		
			3	......	38.69	61.31	......	1.97	5.28	81.38	1.60	9.77	......	8,119	14,614		
			4	......	......	......	......	......	5.38	83.02	1.63	9.97	......	8,237	14,827		
Same (egg coal)	1653	C	1	7.64	32.12	49.80	10.44	2.01	5.18	66.64	1.41	14.32	4.8	6,633	11,939	......	......
			2	......	34.78	53.92	11.30	2.18	4.69	72.15	1.53	8.15	......	7,182	12,928		
			3	......	39.20	60.80	......	2.46	5.29	81.33	1.72	9.20	......	8,097	14,575		
Same	1802	C	1	10.14	30.99	51.43	7.44	1.52	5.46	67.86	1.47	16.25	4.1	6,731	12,116	......	......
			2	......	34.49	57.23	8.28	1.69	4.82	75.51	1.64	8.06	......	7,490	13,482		
			3	......	37.60	62.40	......	1.84	5.26	82.33	1.79	8.78	......	8,166	14,699		
1½ miles northeast of; sec. 35, T. 8 S., R. 1 E., No. 8 mine, No. 6 bed (500 feet north and 2,900 feet west of shaft, room 5 off north entry 12 on west entry, 85$\frac{15}{16}$-inch cut).	5238	A	1	9.18	27.30	55.40	8.12	.90	5.10	68.45	1.14	16.29	5.4	6,675	12,015	......	512
			2	......	30.06	61.00	8.94	.99	4.49	75.37	1.26	8.95	......	7,350	13,230		
			3	......	33.01	66.99	......	1.09	4.93	82.77	1.38	9.83	......	8,072	14,530		
Same (2,200 feet north and 2,200 feet west of shaft, room 13 off west entry 2 off north entry 4, 93$\frac{13}{16}$-inch cut).	5215	A	1	7.88	31.20	49.89	11.03	2.99	5.14	66.50	1.04	13.30	3.6	6,523	11,741	......	512
			2	......	33.87	54.16	11.97	3.25	4.50	72.19	1.13	6.96	......	7,081	12,746		
			3	......	38.48	61.52	......	3.69	5.27	82.01	1.28	7.75	......	8,044	14,479		
Herrin, No. 7 mine, No. 6 bed (2,300 feet southwest of shaft, room 17 off south entry 6, west side, 85$\frac{7}{8}$-inch cut).	1731	A	1	9.37	30.69	52.57	7.37	1.25	......	......	......	......	5.7	6,699	12,058	290	512
			2	......	33.86	58.01	8.13	1.38	......	......	......	......	......	7,392	13,306	18	
			3	......	36.86	63.14	......	1.50	......	......	......	......	......	8,046	14,483	23	
Same (2,400 feet northeast of shaft, room 14 off north entry 5, east side, 8-foot 9½-inch cut).	1732	A	1	8.59	31.07	53.37	6.97	1.78	......	......	......	......	4.8	......	......	290	512
			2	......	33.99	58.38	7.63	1.95	......	......	......	......	......	......	......	18	
			3	......	36.80	63.20	......	2.11	......	......	......	......	......	......	......	23	
Same (lump and egg, over 3-inch mesh)	1820	C	1	8.43	30.08	51.89	9.60	1.14	5.18	67.33	1.50	15.25	4.0	6,644	11,959	290	......
			2	......	32.85	56.67	10.48	1.24	4.63	73.53	1.64	8.48	......	7,256	13,061		
			3	......	36.70	63.30	......	1.39	5.17	82.14	1.83	9.47	......	8,106	14,591		
			4	......	......	......	......	......	5.25	83.30	1.85	9.60	......	8,188	14,738		
Same (2,400 feet west of shaft, 7-foot cut)	3629	A	1	8.72	30.38	53.28	7.62	1.00	......	......	......	......	......	6,778	12,200	332	512
			2	......	33.28	58.37	8.35	1.10	......	......	......	......	......	7,425	13,365		
			3	......	36.31	63.69	......	1.20	......	......	......	......	......	8,102	14,584		

Same (2,250 feet northwest of shaft, 83-inch cut).	3632	A	1	8.88	29.49	53.60	8.03	.99	......	......	......	......	......	......	......	332	512
			2	......	32.37	58.82	8.81	1.09	......	......	......	......	......	......	......		
			3	......	35.50	64.50	......	1.20	......	......	......	......	......	......	......		
Same (west of shaft, 1,800 feet north, 7-foot cut)[a].	3636	A	1	8.80	29.85	53.83	7.52	1.13	5.08	68.70	1.33	16.24	......	6,790	12,222	316	512
			2	......	32.73	59.02	8.25	1.24	4.50	75.33	1.46	9.22	......	7,445	13,401		
			3	......	35.67	64.33	......	1.35	4.90	82.10	1.59	10.06	......	8,114	14,605		
Same (lump, over 3-inch screen).	3789	C	1	7.78	29.85	52.39	9.98	1.32	5.06	67.45	1.21	14.98	3.0	6,644	11,959	332	......
			2	......	32.37	56.81	10.82	1.43	4.55	73.14	1.31	8.75	......	7,205	12,969		
			3	......	36.30	63.70	......	1.61	5.11	82.01	1.47	9.80	......	8,079	14,542		
			4	......	......	......	......	......	5.19	83.35	1.50	9.96	......	8,174	14,713		
Marion, No. 3 mine, No. 6 bed (southwest entry 3, 86-inch cut).	1170	A	1	7.50	31.68	53.67	7.15	.99	......	......	1.41	......	1.5	6,881	12,386	18	513
			2	......	34.25	58.02	7.73	1.07	......	......	1.52	......	......	7,438	13,388	28	
			3	......	37.12	62.88	......	1.16	......	......	1.65	......	......	8,062	14,512	48	
Same (north entry 1, east side, 82-inch cut).	1171	A	1	7.34	34.29	50.84	7.53	2.04	......	......	......	......	1.8	......	......	18	
			2	......	37.01	54.86	8.13	2.20	......	......	......	......	......	......	......	28	513
			3	......	40.29	59.71	......	2.39	......	......	......	......	......	......	......	48	
Same (run of mine, 40 tons).	1318	C	1	8.50	29.47	50.75	11.28	1.72	5.09	65.48	1.39	15.04	2.7	6,542	11,776	18	
			2	......	32.21	55.46	12.33	1.88	4.54	71.56	1.52	8.17	......	7,150	12,870	28	
			3	......	36.74	63.26	......	2.14	5.17	81.63	1.73	9.33	......	8,155	14,679	48	......
INDIANA.																	
CLAY COUNTY.																	
Brazil, near; 1 mile southwest of Perth, No. 4 mine, Brazil Block bottom bed (800 feet southeast of shaft, 41-inch cut).	3536	A	1	15.38	32.66	46.08	5.88	1.95	......	......	......	......	11.3	6,489	11,680	332	514
			2	......	38.60	54.45	6.95	2.30	......	......	......	......	......	7,669	13,804	336	
			3	......	41.48	58.52	......	2.47	......	......	......	......	......	8,241	14,834		
Same (600 feet northwest of shaft, 43½-inch cut).	3537	A	1	15.91	33.19	46.05	4.85	1.22	......	......	......	......	10.4	......	......	332	514
			2	......	39.47	54.76	5.77	1.45	......	......	......	......	......	......	......	336	
			3	......	41.89	58.11	......	1.54	......	......	......	......	......	......	......		
Same (screenings, through 1½-inch bar screen).	3979	C	1	16.91	26.85	38.87	17.37	1.89	5.48	52.97	1.01	21.28	13.1	5,291	9,524	332	......
			2	......	32.31	46.79	20.90	2.27	4.33	63.75	1.22	7.53	......	6,368	11,462		
			3	......	40.85	59.15	......	2.88	5.48	80.60	1.54	9.50	......	8,051	14,492		
			4	......	......	......	......	......	5.64	82.99	1.58	9.79	......	8,220	14,796		
DAVIESS COUNTY.																	
Montgomery, 1 mile west of; No. 3 mine (west entry 2, south side, 900 feet southwest of shaft).	3511	A	1	10.95	35.47	45.90	7.68	3.73	......	......	......	......	7.0	......	......	......	515
			2	......	39.83	51.55	8.62	4.19	......	......	......	......	......	......	......		
			3	......	43.59	56.41	......	4.58	......	......	......	......	......	......	......		
Same (room 4, north entry 12, 2,000 feet north of shaft).	3510	A	1	12.93	33.27	46.98	6.82	3.38	......	......	......	......	7.6	......	......	......	515
			2	......	38.21	53.96	7.83	3.88	......	......	......	......	......	......	......		
			3	......	41.46	58.54	......	4.21	......	......	......	......	......	......	......		
GREENE COUNTY.																	
Linton, 2 miles west of; Black Creek mine, No. 4 bed (2,000 feet southeast of shaft, 55½-inch cut).	3473	A	1	13.53	33.54	45.38	7.55	.95	......	......	......	......	5.1	6,521	11,738	332	515
			2	......	38.79	52.48	8.73	1.10	......	......	......	......	......	7,540	13,573	18	
			3	......	42.50	57.50	......	1.21	......	......	......	......	......	8,263	14,873	28	
Same (1,900 feet northeast of shaft, 49½-inch cut).	3474	A	1	13.98	32.57	46.35	7.10	.96	......	......	......	......	7.8	......	......	332	515
			2	......	37.86	53.89	8.25	1.12	......	......	......	......	......	......	......	18	
			3	......	41.26	58.74	......	1.22	......	......	......	......	......	......	......	28	
Same (run of mine).	3567	C	1	13.58	32.07	46.20	8.15	.91	5.65	63.53	1.42	20.34	9.1	6,344	11,419	332	......
			2	......	37.11	53.46	9.43	1.05	4.79	73.51	1.64	9.58	......	7,341	13,214		
			3	......	40.97	59.03	......	1.16	5.29	81.17	1.81	10.57	......	8,105	14,589		
			4	......	......	......	......	......	5.35	82.12	1.84	10.69	......	8,175	14,715		

[a] Sample taken to determine to what extent quantity of coal taken as sample affects the analysis (see U. S. Geol. Survey Bull. 316, p. 516).

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
INDIANA—Continued.																	
GREENE COUNTY—continued.																	
Linton—Continued.																	
4 miles west of; White Rabbit mine, No. 5 bed (650 feet west of shaft, 79$\frac{11}{16}$-inch cut).	3475	A	1	10.91	37.86	42.02	9.21	3.16	......	......	......	......	6.0	......	......	332	516
			2	......	42.50	47.16	10.34	3.55	......	......	......	......	......	......	......	18	
			3	......	47.40	52.60	......	3.96	......	......	......	......	......	......	......	28	
Same (500 feet southeast of shaft, 83$\frac{7}{16}$-inch cut).	3476	A	1	11.51	36.78	40.49	11.22	4.17	......	......	......	......	8.6	......	......	332	516
			2	......	41.57	45.75	12.68	4.71	......	......	......	......	......	......	......		
			3	......	47.61	52.39	......	5.39	......	......	......	......	......	......	......		
Same (run of mine)......	3564	C	1	10.30	36.31	41.64	11.75	4.23	5.38	61.00	1.06	16.58	5.9	6,233	11,218	332	......
			2	......	40.48	46.42	13.10	4.72	4.73	68.00	1.18	8.27	......	6,949	12,508	18	
			3	......	46.58	53.42	......	5.43	5.44	78.26	1.36	9.51	......	7,995	14,391	18	
			4	......	......	......	......	......	5.75	82.75	1.44	10.06	......	8,325	14,985		
KNOX COUNTY.																	
Bicknell, Linn mine, No. 6 bed (500 feet northeast of shaft, 60$\frac{7}{8}$-inch cut).	3516	A	1	10.60	38.06	43.04	8.30	3.69	......	......	......	......	6.1	6,529	11,752	332	517
			2	......	42.57	48.15	9.28	4.13	......	......	......	......	......	7,303	13,145	336	
			3	......	46.92	53.08	......	4.55	......	......	......	......	......	8,051	14,492	28	
Same (250 feet northwest of shaft, 71-inch cut).	3517	A	1	11.87	36.23	43.84	8.06	4.05	......	......	......	......	6.9	......	......	332	517
			2	......	41.11	49.74	9.15	4.60	......	......	......	......	......	......	......	336	
			3	......	45.25	54.75	......	5.06	......	......	......	......	......	......	......	28	
Same (run of mine)......	3981	C	1	12.08	32.48	44.42	11.02	3.65	5.34	60.45	.89	18.65	5.1	6,117	11,011	332	......
			2	......	36.94	50.53	12.53	4.15	4.55	68.76	1.01	9.00	......	6,957	12,523		
			3	......	42.24	57.76	......	4.75	5.20	78.61	1.16	10.28	......	7,955	14,319		
			4	......	......	......	......	......	5.46	82.53	1.21	10.80	......	8,238	14,828		
PARKE COUNTY.																	
Diamond, $\frac{3}{4}$ mile northwest of; No. 9 mine, Brazil Block upper bed (1,200 feet southwest of shaft, 56$\frac{1}{4}$-inch cut).	3534	A	1	13.70	35.94	44.45	5.91	2.66	......	......	......	......	6.7	6,628	11,930	332	517
			2	......	41.64	51.51	6.85	3.08	......	......	......	......	......	7,680	13,824	28	
			3	......	44.70	55.30	......	3.31	......	......	......	......	......	8,245	14,841		
Same (500 feet east of shaft, 48$\frac{1}{4}$-inch cut)......	3535	A	1	13.93	35.18	45.82	5.07	1.93	......	......	......	......	8.9	......	......	332	517
			2	......	40.87	53.24	5.89	2.24	......	......	......	......	......	......	......	28	
			3	......	43.43	56.57	......	2.38	......	......	......	......	......	......	......		
Rosedale, Rosedale mine, No. 3 bed (3,000 feet southeast of shaft, south entry 16, 61$\frac{1}{16}$-inch cut).	1853	A	1	11.54	39.49	39.35	9.62	4.41	......	......	......	......	8.6	6,475	11,655	290	518
			2	......	44.64	44.48	10.88	4.99	......	......	......	......	......	7,320	13,176	336	
			3	......	50.09	49.91	......	5.60	......	......	......	......	......	8,213	14,783	28	

Same (3,000 feet northeast of shaft, north entry 18, 60 5/16-inch cut).	1854	A	1	12.26	38.62	40.80	8.32	4.71	......	......	......	......	9.6	......	......	290	518
			2	......	44.02	46.50	9.48	5.37	......	......	......	......	......	......	......	336	
			3	......	48.63	51.37	......	5.93	......	......	......	......	......	......	......	28	
Same (lump, over 1¼-inch bar screen)......	1979	C	1	10.72	39.29	41.42	8.57	3.83	5.86	63.48	1.16	17.10	8.1	6,537	11,767	290	......
			2	......	44.01	46.39	9.60	4.29	5.23	71.10	1.30	8.48	......	7,322	13,180		
			3	......	48.68	51.32	......	4.75	5.79	78.65	1.44	9.37	......	8,099	14,578		
			4	......	......	......	......	......	6.07	82.58	1.50	9.85	......	8,390	15,102		
PIKE COUNTY.																	
Ayrshire, near; 1 mile southwest of Winslow, Ayrshire No. 4 mine, No. 5 bed (3,400 feet south of opening, 57-inch cut).	3525	A	1	12.88	34.71	46.27	6.14	1.70	......	......	......	......	5.3	6,556	11,801	332	519
			2	......	39.84	53.11	7.05	1.95	......	......	......	......	......	7,525	13,545	18	
			3	......	42.86	57.14	......	2.10	......	......	......	......	......	8,096	14,573	28	
Same (3,400 feet south of opening, 56 15/16-inch cut).	3526	A	1	13.83	34.24	45.91	6.02	1.41	......	......	......	......	7.4	......	......	332	519
			2	......	39.74	53.27	6.99	1.64	......	......	......	......	......	......	......	18	
			3	......	42.73	57.27	......	1.76	......	......	......	......	......	......	......	28	
Same (lump, over 1¼-inch screen)......	3801	C	1	11.13	35.11	46.78	6.98	1.64	5.65	66.94	1.34	17.45	3.1	6,684	12,031	332	......
			2	......	39.51	52.64	7.85	1.85	4.96	75.32	1.51	8.51	......	7,521	13,538		
			3	......	42.87	57.13	......	2.00	5.39	81.74	1.64	9.23	......	8,162	14,692		
			4	......	......	......	......	......	5.50	83.41	1.67	9.42	......	8,283	14,909		
Same (washed slack, through ¾-inch wire-mesh screen).	3864	C	1	12.11	34.19	46.87	6.83	1.44	5.70	65.57	1.14	19.32	3.5	6,640	11,952	......	......
			2	......	38.90	53.33	7.77	1.64	4.95	74.60	1.30	9.74	......	7,555	13,599		
			3	......	42.18	57.82	......	1.78	5.37	80.89	1.41	10.55	......	8,192	14,746		
Hartwell, Hartwell mine, No. 5 bed (1,200 feet northwest of opening, room 7 off west entry 4, 4¾-foot cut).	2701	A	1	11.29	38.35	43.49	6.87	3.09	......	......	......	......	8.2	6,623	11,921	332	519
			2	......	43.23	49.03	7.74	3.48	......	......	......	......	......	7,466	13,439	18	
			3	......	46.86	53.14	......	3.77	......	......	......	......	......	8,093	14,567	28	
Same (900 feet northwest of opening, room 3 off west entry 1, 4-foot 10⅜-inch cut).	2702	A	1	11.10	37.11	43.27	8.52	3.86	......	......	......	......	8.5	......	......	332	519
			2	......	41.75	48.67	9.58	4.34	......	......	......	......	......	......	......	18	
			3	......	46.17	53.83	......	4.80	......	......	......	......	......	......	......	28	
Same (run of mine, sample 1)......	2759	C	1	10.57	35.03	42.75	11.65	3.87	5.40	61.11	1.17	16.80	6.4	6,259	11,266	332	......
			2	......	39.17	47.80	13.03	4.33	4.73	68.33	1.31	8.27	......	6,999	12,598		
			3	......	45.04	54.96	......	4.98	5.44	78.57	1.50	9.51	......	8,047	14,485		
			4	......	......	......	......	......	5.72	82.68	1.58	10.02	......	8,352	15,034		
Same (run of mine, sample 2)......	2825	C	1	12.99	34.27	40.55	12.19	3.97	......	......	......	......	11.0	......	......	332	......
			2	......	39.39	46.60	14.01	4.45	......	......	......	......	......	......	......		
			3	......	45.81	54.19	......	5.17	......	......	......	......	......	......	......		
Littles, Little's mine, No. 5 bed (2,000 feet southeast of shaft, off south entry 8, 6-foot cut).	1824	A	1	10.18	38.86	42.84	8.12	3.96	......	......	......	......	6.4	6,767	12,181	290	520
			2	......	43.26	47.70	9.04	4.41	......	......	......	......	......	7,534	13,561	18	
			3	......	47.56	52.44	......	4.85	......	......	......	......	......	8,283	14,909	28	
Same (2,600 feet east of shaft, main east entry, 6-foot 1-inch cut).	1825	A	1	9.99	37.86	44.18	7.97	3.25	......	......	......	......	6.2	......	......	290	520
			2	......	42.06	49.09	8.85	3.61	......	......	......	......	......	......	......	18	
			3	......	46.14	53.86	......	3.96	......	......	......	......	......	......	......	28	
Same (lump, over 1¼-inch screen)......	1881	C	1	8.90	38.52	43.37	9.21	3.74	5.61	65.54	1.20	14.70	3.6	6,671	12,008	290	......
			2	......	42.28	47.61	10.11	4.11	5.07	71.94	1.32	7.45	......	7,323	13,181		
			3	......	47.04	52.96	......	4.57	5.64	80.04	1.47	8.28	......	8,147	14,665		
			4	......	......	......	......	......	5.91	83.86	1.54	8.69	......	8,429	15,172		
Same (screenings, through 1¼-inch screen)......	1882	C	1	11.12	36.98	42.55	9.35	3.78	5.63	63.01	1.13	17.10	8.6	6,416	11,549	290	......
			2	......	41.61	47.87	10.52	4.25	4.94	70.89	1.27	8.13	......	7,219	12,994		
			3	......	46.50	53.50	......	4.75	5.52	79.23	1.42	9.08	......	8,067	14,521		
			4	......	......	......	......	......	5.81	83.18	1.49	9.52	......	8,358	15,044		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
INDIANA—Continued.																	
SULLIVAN COUNTY.																	
Dugger, No. 4 mine, No. 4 bed (500 feet northeast of shaft, room 8, east entry 1, 4 foot 11½ inch cut).	1883	A	1	14.23	33.04	47.01	5.72	0.89	......	......	......	......	10.6	6,512	11,722	290	521
			2	......	38.52	54.81	6.67	1.04	......	......	......	......	......	7,592	13,666	18	
			3	......	41.27	58.73	......	1.11	......	......	......	......	......	8,135	14,643	28	
Same (600 feet northwest of shaft, room 1, west entry 1, 5 foot 1 inch cut).	1884	A	1	12.62	34.92	45.48	6.98	2.35	......	......	......	......	9.6	......	......	290	521
			2	......	39.96	52.05	7.99	2.69	......	......	......	......	......	......	......	18	
			3	......	43.43	56.57	......	2.92	......	......	......	......	......	......	......	28	
Same (lump, over 1½-inch and 3-inch screens)..	2087	C	1	12.15	33.48	46.23	8.14	1.41	5.46	64.92	1.38	18.69	4.0	6,534	11,761	290	......
			2	......	38.11	52.62	9.27	1.61	4.68	73.90	1.57	8.97	......	7,438	13,388		
			3	......	42.00	58.00	......	1.77	5.16	81.44	1.73	9.90	......	8,197	14,755		
			4	......	......	......	......	......	5.25	82.89	1.76	10.10	......	8,302	14,944		
Hymera, No. 33 mine, No. 5 bed (1,600 feet southwest of shaft, room 16, off east entry 2, 62-inch cut).	1773	A	1	12.14	35.17	43.73	8.96	3.54	......	......	......	......	9.1	6,398	11,516	290	522
			2	......	40.03	49.77	10.20	4.03	......	......	......	......	......	7,282	13,108	336	
			3	......	44.58	55.42	......	4.49	......	......	......	......	......	8,108	14,594	18	
Same (1,200 feet northeast of shaft, east entry 2, north side, 83-inch cut).	1774	A	1	12.17	35.53	43.14	9.16	4.66	......	......	......	......	8.4	......	......	290	522
			2	......	40.45	49.12	10.43	5.31	......	......	......	......	......	......	......	336	
			3	......	45.16	54.84	......	5.93	......	......	......	......	......	......	......	28	
Same (run of mine)...........................	1859	C	1	12.03	35.65	41.44	10.88	4.27	5.50	60.73	1.08	17.54	7.2	6,218	11,192	290	......
			2	......	40.53	47.10	12.37	4.85	4.73	69.04	1.23	7.78	......	7,069	12,724		
			3	......	46.25	53. 75	......	5.54	5.40	78.78	1.40	8.88	......	8,066	14,519		
			4	......	......	......	......	......	5.70	83.40	1.48	9.42	......	8,407	15,132		
Near, No. 34 mine, No. 5 bed (300 feet southeast of shaft, room2, off east entry 2, south side, 6½-	1772	A	1	10.45	38.62	41.35	9.58	4.04	......	......	......	......	7.2	6,525	11,745	290	522
			2	......	43.13	46.17	10.70	4.51	......	......	......	......	......	7,286	13,115	332	
			3	......	48.30	51.70	......	5.05	......	......	......	......	......	8,159	14,686	18	
Same (425 feet north of shaft, main north entry, 65$\frac{1}{16}$-inch cut). foot cut).	1776	A	1	9.22	37.76	41.85	11.17	3.94	......	......	......	......	4.7	......	......	290	522
			2	......	41.60	46.10	12.30	4.34	......	......	......	......	......	......	......	332	
			3	......	47.44	52.56	......	4.95	......	......	......	......	......	......	......	28	
Same (run of mine)...........................	1875	C	1	10.80	36.09	40.49	12.62	4.39	5.46	60.88	1.13	15.52	5.2	6,214	11,185	290	......
			2	......	40.46	45.39	14.15	4.92	4.78	68.25	1.27	6.63	......	6,967	12,541		
			3	......	47.13	52.87	......	5.73	5.56	79.50	1.48	7.73	......	8,114	14,605		
			4	......	......	......	......	......	5.90	84.32	1.57	8.21	......	8,469	15,244		
Mildred, Mildred mine, No. 6 bed (room 5, off southeast entry, 58¼-inch cut).	1410	A	1	13.25	35.81	41.78	9.16	1.87	......	......	1.12	......	8.7	6,311	11,360	18	523
			2	......	41.28	48.16	10.56	2.16	......	......	1.23	......	......	7,275	13,095	332	
			3	......	46.16	53.84	......	2.42	......	......	1.38	......	......	8,134	14,641	48	
Same (room 4, off southwest entry, 61½-inch cut)..	1412	A	1	11.50	35.02	43.86	9.62	.96	......	......	1.19	......	5.6	......	......	28	523

			2	......	39.57	49.56	10.87	1.08	......	......	1.32	......	......	......	......	332	
			3	......	44.40	55.60	......	1.21	......	......	1.48	......	......	......	......	48	
Same (run of mine and lump through 3½-inch screen, 15 tons).	1507	C	1	11.40	33.81	41.39	13.40	2.50	5.37	60.34	1.18	17.21	3.0	6,145	11,061	261	......
			2	......	38.16	46.72	15.12	2.82	4.63	68.11	1.33	7.99	......	6,936	12,485	48	
			3	......	44.96	55.04	......	3.32	5.45	80.24	1.57	9.42	......	8,172	14,710		
			4	......	......	......	......	......	5.64	83.00	1.62	9.74	......	8,376	15,077		
Star City, No. 29 mine, No. 6 bed (3,900 feet north of shaft, room 1, off east entry 13, 69½-inch cut).	1775	A	1	14.86	31.65	46.14	7.35	2.26	......	......	......	......	9.0	6,291	11,324	290	524
			2	......	37.17	54.20	8.63	2.65	......	......	......	......	......	7,389	13,300	336	
			3	......	40.68	59.32	......	2.90	......	......	......	......	......	8,087	14,557	28	
Same (4,000 feet southeast of shaft, east entry 8, south side, 71$\frac{1}{16}$-inch cut).	1807	A	1	13.37	35.06	44.15	7.42	2.10	......	......	......	......	8.9	......	......	290	524
			2	......	40.47	50.97	8.56	2.42	......	......	......	......	......	......	......	336	
			3	......	44.26	55.74	......	2.65	......	......	......	......	......	......	......	28	
Same (screenings, through 1¼-inch bar screen).	1844	C	1	13.99	29.40	42.29	14.32	2.31	5.36	57.18	1.11	19.72	10.8	5,732	10,318	290	......
			2	......	34.18	49.17	16.65	2.69	4.43	66.48	1.29	8.46	......	6,665	11,997		
			3	......	41.01	58.99	......	3.22	5.31	79.76	1.55	10.16	......	7,996	14,393		
			4	......	......	......	......	......	5.49	82.42	1.60	10.49	......	8,187	14,737		
VIGO COUNTY																	
Macksville, Red Bird mine, No. 7 bed (1,900 feet north of shaft, room 18 off north entry 5, 69½-inch cut).	1848	A	1	13.73	35.54	42.08	8.65	3.00	......	......	......	......	10.8	6,311	11,360	290	525
			2	......	41.20	48.77	10.03	3.48	......	......	......	......	......	7,315	13,167	18	
			3	......	45.79	54.21	......	3.87	......	......	......	......	......	8,131	14,636	28	
Same (2,000 feet N. 10° E., east entry 4, off north entry 6, 4-foot 8½-inch cut).	1849	A	1	14.33	35.18	42.02	8.47	2.70	......	......	......	......	11.0	......	......	290	525
			2	......	41.07	49.04	9.89	3.15	......	......	......	......	......	......	......	18	
			3	......	45.58	54.42	......	3.50	......	......	......	......	......	......	......	28	
Same (run of mine).	1960	C	1	13.53	34.80	40.91	10.76	3.15	5.78	59.64	1.06	19.61	10.7	6,082	10,948	290	......
			2	......	40.25	47.31	12.44	3.64	4.95	68.97	1.23	8.77	......	7,034	12,661		
			3	......	45.97	54.03	......	4.16	5.65	78.77	1.40	10.02	......	8,033	14,459		
			4	......	......	......	......	......	5.90	82.18	1.46	10.46	......	8,285	14,913		
Same (lump, over 1¼-inch screen).	1973	C	1	12.82	34.80	42.08	10.30	3.27	5.66	61.16	1.03	18.58	8.0	6,177	11,119	290	......
			2	......	39.92	48.26	11.82	3.75	4.86	70.16	1.18	8.23	......	7,086	12,755		
			3	......	45.27	54.73	......	4.25	5.51	79.55	1.34	9.35	......	8,034	14,461		
			4	......	......	......	......	......	5.76	83.08	1.40	9.76	......	8,288	14,918		
Seelyville, 1½ miles east of; No. 65 mine, No. 3 bed 2,400 feet northeast of shaft, room 18, off right entry 2, 67¾-inch cut).	3491	A	1	13.62	38.21	41.06	7.11	3.28	......	......	......	......	8.7	6,413	11,543	332	526
			2	......	44.24	47.53	8.23	3.80	......	......	......	......	......	7,424	13,363	18	
			3	......	48.21	51.79	......	4.14	......	......	......	......	......	8,090	14,562	28	
Same (900 feet southeast of shaft, room 13, off left entry 3, 74$\frac{1}{16}$-inch cut).	3492	A	1	11.46	37.45	40.39	10.70	5.45	......	......	......	......	7.0	......	......	332	526
			2	......	42.30	45.62	12.08	6.16	......	......	......	......	......	......	......	18	
			3	......	48.11	51.89	......	7.01	......	......	......	......	......	......	......	28	
Same (run of mine).	3775	C	1	7.88	36.85	41.07	14.20	5.14	5.22	59.75	.93	14.76	3.7	6,192	11,146	332	......
			2	......	40.00	44.59	15.41	5.58	4.71	64.86	1.01	8.43	......	6,721	12,098		
			3	......	47.29	52.71	......	6.60	5.57	76.68	1.19	9.96	......	7,947	14,305		
			4	......	......	......	......	......	5.96	82.10	1.28	10.66	......	8,348	15,026		
Terre Haute, 2 miles west of; Deep Vein mine, No. 4 bed (700 feet southeast of shaft, room 8 off south entry 4, east side, 49-inch cut).	1828	A	1	10.68	37.17	39.91	12.24	4.38	......	......	......	......	7.4	6,256	11,261	290	526
			2	......	41.62	44.68	13.70	4.90	......	......	......	......	......	7,004	12,607	18	
			3	......	48.23	51.77	......	5.68	......	......	......	......	......	8,116	14,609	28	
Same (800 feet northwest of shaft, west entry 6, north side, 4½-foot cut).	1829	A	1	11.13	36.86	41.80	10.21	3.76	......	......	......	......	8.0	......	......	290	526
			2	......	41.47	47.04	11.49	4.23	......	......	......	......	......	......	......	18	
			3	......	46.85	53.15	......	4.78	......	......	......	......	......	......	......	28	
Same (lump, over 1¼-inch bar screen).	2037	C	1	9.55	36.19	43.65	10.61	3.72	5.49	64.08	1.08	15.02	4.6	6,533	11,759	290	......
			2	......	40.01	48.26	11.73	4.11	4.90	70.85	1.19	7.22	......	7,223	13,001		
			3	......	45.33	54.67	......	4.66	5.55	80.26	1.35	8.18	......	8,183	14,729		
			4	......	......	......	......	......	5.82	84.18	1.42	8.58	......	8,474	15,253		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
INDIANA—Continued.																	
VIGO COUNTY—continued.																	
Terre Haute—Continued.																	
3 miles west of; Home mine, No. 6 bed (3,000 feet south of shaft, room 4, off east entry 4, 50-inch cut).	3467	A	1	13.43	36.72	42.51	7.34	2.16	......	......	......	......	8.0	6,360	11,448	332	527
			2	......	42.42	49.10	8.48	2.50	......	......	......	......	......	7,346	13,223	18	
			3	......	46.35	53.65	......	2.73	......	......	......	......	......	8,027	14,449	28	
Same (3,000 feet southwest of shaft, room 9, off south entry 5, 66-inch cut).	3468	A	1	13.88	35.89	41.54	8.69	3.26	......	......	......	......	8.3	......	......	332	527
			2	......	41.68	48.23	10.09	3.79	......	......	......	......	......	......	......	18	
			3	......	46.36	53.64	......	4.22	......	......	......	......	......	......	......	28	
Same (run of mine)	3748	C	1	12.79	35.45	39.67	12.09	3.18	5.58	59.84	.82	18.49	5.6	6,055	10,899	332	......
			2	......	40.65	45.49	13.86	3.65	4.77	68.62	.94	8.16	......	6,943	12,497		
			3	......	47.19	52.81	......	4.23	5.54	79.66	1.09	9.48	......	8,060	14,508		
			4	......	......	......	......	......	5.78	83.18	1.14	9.90	......	8,317	14,971		
WARRICK COUNTY.																	
Boonville, Big Four mine, No. 5 bed (35 yards from working face, main west entry).	1424	A	1	10.41	39.18	41.96	8.45	3.51	......	......	......	......	3.6	6,566	11,819	*48*	528
			2	......	43.73	46.84	9.43	3.92	......	......	......	......	......	7,329	13,192		
			3	......	48.28	51.72	......	4.33	......	......	......	......	......	8,092	14,566		
Same (room 9 off main west entry)	1427	A	1	9.36	38.34	42.77	9.53	3.53	......	......	......	......	3.5	......	......	*48*	528
			2	......	42.30	47.19	10.51	3.88	......	......	......	......	......	......	......		
			3	......	47.27	52.73	......	4.34	......	......	......	......	......	......	......		
Near; Electric mine, No. 5 bed (room 4 off north entry, 7-foot 1-inch cut).	1425	A	1	9.28	39.40	41.98	9.34	4.44	......	......	......	......	2.8	6,555	11,799	18	528
			2	......	43.43	46.27	10.30	4.89	......	......	......	......	......	7,226	13,007	28	
			3	......	48.41	51.59	......	5.45	......	......	......	......	......	8,055	14,499	*48*	
Same (room 8 off south entry, 7½-foot cut)	1426	A	1	10.32	38.08	43.05	8.55	3.51	......	......	......	......	3.1	......	......	18	528
			2	......	42.46	48.01	9.53	3.91	......	......	......	......	......	......	......	28	
			3	......	46.93	53.07	......	4.32	......	......	......	......	......	......	......	*48*	
Same (run of mine, 39 tons)	1495	C	1	9.62	36.14	41.22	13.02	4.43	5.33	60.70	1.20	15.32	3.6	6,179	11,122	261	......
			2	......	39.99	45.60	14.41	4.90	4.71	67.16	1.33	7.49	......	6,836	12,305	*45*	
			3	......	46.72	53.28	......	5.73	5.51	78.47	1.55	8.74	......	7,988	14,378		
			4	......	......	......	......	......	5.84	83.23	1.65	9.28	......	8,335	15,003		
Near; No. 3 mine, No. 5 bed (room 14, 1,500 feet northeast of shaft, 7$\frac{11}{12}$-foot cut).	1759	A	1	11.28	38.04	43.05	7.63	3.58	......	......	......	......	7.6	6,551	11,792	290	528
			2	......	42.87	48.53	8.60	4.04	......	......	......	......	......	7,384	13,291	18	
			3	......	46.90	53.10	......	4.42	......	......	......	......	......	8,079	14,542	28	
Same (room 14, 600 feet northwest of shaft, 7-foot 6⅓-inch cut).	1760	A	1	11.10	37.04	42.18	9.68	4.33	......	......	......	......	7.0	......	......	290	528
			2	......	41.66	47.45	10.89	4.87	......	......	......	......	......	......	......	18	
			3	......	46.75	53.25	......	5.47	......	......	......	......	......	......	......	28	

Same (nut and slack mixed)	1941	C	1	13.18	31.92	39.27	15.63	4.79	5.36	54.52	1.08	18.62	8.5	5,572	10,030	290	......
			2	......	36.76	45.24	18.00	5.52	4.49	62.80	1.24	7.95	......	6,418	11,552		
			3	......	44.83	55.17	......	6.73	5.48	76.58	1.52	9.69	......	7,827	14.089		
			4	......	......	......	......	......	5.87	82.11	1.63	10.39	......	8,229	14,812		
INDIAN TERRITORY. (See OKLAHOMA.)																	
IOWA.																	
APPANOOSE COUNTY.																	
Centerville No. 3 mine, lower Mystic bed (room 1, off east entry 6, off main south entry, 34-inch cut).	1323	A	1	17.13	35.44	40.36	7.07	4.00	......	......	......	......	9.4	6,073	10,931	261	529
			2	......	42.77	48.70	8.53	4.83	......	......	......	......	......	7,328	13,190	*48*	
			3	......	46.76	53.24	......	5.28	......	......	......	......	......	8,012	14,422		
Same (room 1, off east entry 6, 32-inch cut)	1324	A	1	16.14	34.94	37.84	11.08	4.76	......	......	......	......	8.6	......	......	261	529
			2	......	41.67	45.12	13.21	5.68	......	......	......	......	......	......	......	*48*	
			3	......	48.01	51.99	......	6.54	......	......	......	......	......	......	......		
Same (lump, over 1¼-inch screen, and fine coal, over ¼-inch screen, 31 tons).	1437	C	1	14.08	35.59	39.37	10.96	4.26	5.57	58.49	.90	19.82	4.5	5,957	10,723	261	......
			2	......	41.42	45.82	12.76	4.96	4.67	68.07	1.05	8.49	......	6,933	12,479	*48*	
			3	......	47.48	52.52	......	5.69	5.35	78.03	1.20	9.73	......	7,947	14,305		
			4	......	......	......	......	......	5.67	82.74	1.27	10.32	......	8,290	14,922		
LUCAS COUNTY.																	
Chariton, about 5 miles northeast of; secs. 4, 5, 8, and 9, T. 72 N., R. 21 W., Inland No. 1 mine, lower bed (room 8, off east entry 1, south side, 84-inch cut).	1332	A	1	18.69	31.80	41.78	7.73	2.39	......	......	......	......	9.4	5,836	10,505	261	530
			2	......	39.11	51.38	9.51	2.94	......	......	......	......	......	7,178	12,920	*48*	
			3	......	43.22	56.78	......	3.25	......	......	......	......	......	7,932	14,278		
Same (room 33, off north entry 2, 91-inch cut)	1333	A	1	18.59	34.36	39.90	7.15	3.10	......	......	......	......	7.1	......	......	261	530
			2	......	42.20	49.02	8.78	3.81	......	......	......	......	......	......	......	*48*	
			3	......	46.26	53.74	......	4.18	......	......	......	......	......	......	......		
Same (run of mine, 7 tons)	1433	C	1	15.39	30.49	41.49	12.63	3.19	5.74	55.81	1.14	21.49	6.8	5,690	10,242	261	......
			2	......	36.04	49.03	14.93	3.77	4.76	65.96	1.35	9.23	......	6,725	12,105	*48*	
			3	......	42.37	57.63	......	4.43	5.60	77.54	1.58	10.85	......	7,905	14,229		
			4	......	......	......	......	......	5.86	81.13	1.66	11.35	......	8,168	14,702		
MARION COUNTY.																	
Hamilton, near; Liberty Township, No. 5 mine, Big Vein bed (west entry 3, south side, 62-inch cut).	1289	A	1	15.65	36.87	35.84	11.64	5.10	......	......	1.06	......	9.3	5,716	10,289	261	531
			2	......	43.71	42.49	13.80	6.05	......	......	1.26	......	......	6,776	12,197	*48*	
			3	......	50.71	49.29	......	7.02	......	......	1.46	......	......	7,861	14,150	**18**	
Same (west entry 5, south side, 80-inch cut)	1291	A	1	15.50	36.94	38.37	9.19	5.19	......	......	......	......	9.5	......	......	261	531
			2	......	43.71	45.41	10.88	6.14	......	......	......	......	......	......	......	*48*	
			3	......	49.05	50.95	......	6.89	......	......	......	......	......	......	......	**18**	
Same (run of mine, 80 tons)	1570	C	1	14.21	33.17	37.40	15.22	4.66	5.50	54.08	1.31	19.23	10.4	5,566	10,019	261	......
			2	......	38.66	43.60	17.74	5.43	4.57	63.04	1.53	7.69	......	6,488	11,678	*48*	
			3	......	47.00	53.00	......	6.60	5.55	76.63	1.86	9.36	......	7,887	14,197		
			4	......	......	......	......	......	5.95	82.04	1.99	10.02	......	8,285	14,913		
Same (run of mine, 6 tons)	1608B	C	1	16.99	33.03	35.52	14.46	5.15	......	......	......	......	15.5	......	......	261	......
			2	......	39.79	42.79	17.42	6.20	......	......	......	......	......	......	......	*48*	
			3	......	48.18	51.82	......	7.51	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
IOWA—Continued.																	
MONROE COUNTY.																	
Avery, Smoky Hollow No. 6 mine, Third seam	1288	B	1	12.03	40.62	37.97	9.38	5.04	......	......	......	......	6.6	......	......	*48*	531
			2	......	46.18	43.16	10.66	5.73	......	......	......	......	......	6,030	10,854		
			3	......	51.69	48.31	......	6.41	......	......	......	......	......	......	......		
Same	1290	B	1	15.84	36.90	37.88	9.38	4.68	......	......	......	......	10.4	7,165	12,897	*48*	531
			2	......	43.84	45.01	11.15	5.56	......	......	......	......	......	8,064	14,513		
			3	......	49.33	50.67	......	6.26	......	......	......	......	......	......	......		
POLK COUNTY.																	
Altoona, near; No. 4 mine, Third seam (main west entry, 55-inch cut).	1312	A	1	14.42	37.81	36.78	10.99	5.89	......	......	......	......	9.6	5,911	10,640	261	532
			2	......	44.18	42.98	12.84	6.88	......	......	......	......	......	6,907	12,433	*48*	
			3	......	50.69	49.31	......	7.89	......	......	......	......	......	7,925	14,265		
Same (north entry 9, 46-inch cut)	1313	A	1	15.90	37.42	34.31	12.37	6.76	......	......	......	......	11.0	......	......	261	532
			2	......	44.50	40.79	14.71	8.04	......	......	......	......	......	......	......	*48*	
			3	......	52.17	47.83	......	9.43	......	......	......	......	......	......	......		
Same (lump, 12 tons)	1434	C	1	13.88	36.94	35.17	14.01	6.15	5.52	54.68	.84	18.80	9.8	5,691	10,244	261	......
			2	......	42.89	40.84	16.27	7.14	4.62	63.49	.98	7.50	......	6,608	11,894	*48*	
			3	......	51.22	48.78	......	8.53	5.52	75.83	1.16	8.96	......	7,892	14,206		
			4	......	......	......	......	......	6.04	82.89	1.27	9.80	......	8,418	15,152		
WAPELLO COUNTY.																	
Laddsdale, near; Anchor No. 2 mine (Third bed, 27-inch cut).	1270	A	1	11.35	38.65	39.49	10.51	4.72	......	......	.94	......	7.9	6,303	11,345	261	532
			2	......	43.60	44.54	11.86	5.32	......	......	1.06	......	......	7,110	12,798	*48*	
			3	......	49.47	50.53	......	6.04	......	......	1.20	......	......	8,066	14,519		
Same (Middle bed, 35-inch cut)	1271	A	1	12.07	37.28	38.32	12.33	4.99	......	......	......	......	8.0	......	......	261	532
			2	......	42.40	43.58	14.02	5.68	......	......	......	......	......	......	......	*48*	
			3	......	49.32	50.68	......	6.61	......	......	......	......	......	......	......		
Same (Middle bed, run of mine)	1347	C	1	8.24	30.74	45.02	16.00	5.03	4.81	59.82	.94	13.40	3.2	6,126	11,027	261	......
			2	......	33.50	49.06	17.44	5.48	4.24	65.19	1.02	6.63	......	6,676	12,017	*48*	
			3	......	40.58	59.42	......	6.64	5.13	78.96	1.24	8.03	......	8,086	14,555		
			4	......	......	......	......	......	5.50	84.56	1.33	8.61	......	8,502	15,304		

KANSAS.

ATCHISON COUNTY.																	
Atchison, ½ mile below; Atchison mine, Cherokee bed, run of mine lump, 10 tons.	1473	C	1	6.95	35.70	45.16	12.19	8.04	5.25	62.74	1.04	10.74	3.5	6,614	11,905	261	......
			2		38.37	48.53	13.10	8.64	4.81	67.43	1.12	4.90		7,108	12,794	*48*	
			3		44.15	55.85		9.94	5.54	77.59	1.29	5.64		8,180	14,724		
			4						6.15	86.17	1.43	6.25		8,834	15,902		
CHEROKEE COUNTY.																	
Scammon, ¼ mile west of Frisco depot; No. 9 mine lower Weir-Pittsburg bed (600 feet south of shaft, 4-foot cut).	1036	A	1	2.01	35.99	46.85	15.15	5.27								261	532
			2		36.73	47.81	15.46	5.38								*48*	
			3		43.45	56.55		6.36								23	
Same (500 feet north of shaft, 4-foot cut).......	1037	A	1	2.54	35.31	52.28	9.87	4.47						7,411	13,340	261	533
			2		36.23	53.64	10.13	4.59						7,604	13,687	*48*	
			3		40.31	59.69		5.10						8,461	15,230	23	
Same (run of mine, 7 tons)....................	1086	C	1	2.50	33.80	51.25	12.45	5.68	4.91	69.07	1.20	6.69		7,166	12,900	261	......
			2		34.67	52.56	12.77	5.83	4.75	70.84	1.23	4.58		7,349	13,228	*48*	
			3		39.75	60.25		6.68	5.44	81.21	1.41	5.26		8,426	15,167		
			4						5.83	87.02	1.51	5.64		8,868	15,962		
West Mineral, No. 11 mine, lower Weir-Pittsburg bed (900 feet from shaft, main east entry, 41½-inch cut).	1411	A	1	5.11	32.60	53.39	8.90	4.34					3.2	7,181	12,926	18	533
			2		34.36	56.26	9.38	4.57						7,568	13,622	290	
			3		37.92	62.08		5.04						8,351	15,032	*48*	
Same (540 feet from shaft, main west entry, 41-inch cut).	1413	A	1	5.79	32.34	49.32	12.55	3.84					4.3			23	533
			2		34.33	52.35	13.32	4.08								290	
			3		39.61	60.39		4.71								*48*	
Same (lump and nut, over ⅝-inch screen, first portion, 7 tons).	1567	C	1	4.10	31.65	53.71	10.54	3.77	5.10	70.25	1.06	9.28	2.3	7,164	12,895	261	......
			2		33.00	56.01	10.99	3.93	4.84	73.26	1.11	5.87		7,471	13,448	290	
			3		37.08	62.92		4.42	5.44	82.30	1.24	6.60		8,393	15,107	*48*	
			4						5.69	86.11	1.30	6.90		8,676	15,617		
Same (second portion, 30 tons)................	1605	C	1	4.60	31.94	52.15	11.31	3.40					3.7			*48*	......
			2		33.48	54.66	11.86	3.56									
			3		37.99	62.01		4.04									
CRAWFORD COUNTY.																	
Fleming, No. 10 mine, lower Weir-Pittsburg bed (sample 1,[a] 41½-inch cut).	1018	A	1	2.91	35.81	51.73	9.55	3.79						7,193	12,947	261	533
			2		36.88	53.28	9.84	3.90						7,409	13,336	*48*	
			3		40.90	59.10		4.33						8,217	14,791	23	
Same (sample 2,[a] 39-inch cut)	1020	A	1	3.50	35.75	52.83	7.92	3.28								261	533
			2		37.05	54.74	8.21	3.40								*48*	
			3		40.36	59.64		3.70								23	
Same (run of mine, 22 tons)..................	1097	C	1	4.99	32.68	49.36	12.97	4.28	4.98	67.34	1.08	9.35	1.3	6,801	12,242	261	......
			2		34.40	51.95	13.65	4.50	4.66	70.88	1.14	5.17		7,158	12,884	*48*	
			3		39.84	60.16		5.22	5.40	82.08	1.32	5.98		8,290	14,922		
			4						5.70	86.60	1.39	6.31		8,622	15,520		
Frontenac, 3 miles north of; sec. 29, T. 29 S., R. 25 W., No. 11 mine, Cherokee or Weir-Pittsburg bed (3,000 feet south of opening, south entry 1 off main west entry, 36½-inch cut).	661D	A	1	6.09	32.80	50.43	10.68	5.74					4.1			5	534
			2		34.93	53.69	11.38	6.11									
			3		39.42	60.58		6.89									

[a] Samples 1 and 2 from widely separated parts of same mine.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
KANSAS—Continued.																	
CRAWFORD COUNTY—continued.																	
Frontenac, No. 11 mine—Continued.																	
Same (4,000 feet west of opening, main west entry, 34⅞-inch cut).	660D	A	1	5.28	33.95	51.61	9.16	3.99	......	......	......	......	3.3	7,229	13,012	5	534
			2	......	35.85	54.48	9.67	4.21	......	......	......	......	......	7,632	13,738		
			3	......	39.69	60.31	......	4.66	......	......	......	......	......	8,449	15,208		
Same (run of mine)	701D	C	1	5.75	33.28	47.29	13.68	5.07	5.01	66.68	1.15	8.41	2.8	6,721	12,098	5	......
			2	......	35.28	50.21	14.51	5.38	4.64	70.75	1.22	3.50	......	7,132	12,838		
			3	......	41.27	58.73	......	6.29	5.43	82.75	1.43	4.10	......	8,332	14,998		
Yale, No. 11 mine, lower Weir-Pittsburg 3-foot bed (sample 1,[a] 36½-inch cut).	1017	A	1	2.44	35.16	51.80	10.60	5.63	......	......	......	......	......	7,246	13,043	261	535
			2	......	36.04	53.09	10.87	5.77	......	......	......	......	......	7,427	13,369	*48*	
			3	......	40.44	59.56	......	6.47	......	......	......	......	......	8,333	14,999	28	
Same (sample 2,[a] 3-foot cut)	1019	A	1	2.36	34.62	51.23	11.79	5.88	......	......	......	......	......	......	......	261	535
			2	......	35.46	52.46	12.08	6.02	......	......	......	......	......	......	......	*48*	
			3	......	40.33	59.67	......	6.85	......	......	......	......	......	......	......	28	
Same (lump and nut, two-thirds of carload)	1122	C	1	4.18	31.23	46.68	17.91	6.27	4.69	61.88	.92	8.33	2.0	6,468	11,642	261	......
			2	......	32.59	48.72	18.69	6.54	4.41	64.58	.96	4.82	......	6,750	12,150	*48*	
			3	......	40.08	59.92	......	8.05	5.43	70.42	1.18	5.92	......	8,302	14,944		
			4	......	......	......	......	......	5.90	86.39	1.28	6.43	......	8,832	15,898		
Same (slack, uninspected)	4361	C	1	8.01	26.39	45.22	20.38	4.70	4.71	58.52	1.04	10.65	6.6	5,911	10,640	332	......
			2	......	28.69	49.15	22.16	5.11	4.15	63.62	1.13	3.83	......	6,426	11,567		
			3	......	36.85	63.15	......	6.56	5.33	81.72	1.45	4.94	......	8,254	14,857		
			4	......	......	......	......	......	5.71	87.46	1.55	5.28	......	8,676	15,617		
LINN COUNTY.																	
Jewett, No. 1 mine, Weir-Pittsburg bed (2,000 feet northeast of shaft, east entry 6, 32-inch cut).	2790	A	1	11.13	28.83	47.44	12.60	2.41	......	......	......	......	9.2	6,233	11,219	332	535
			2	......	32.44	53.38	14.18	2.71	......	......	......	......	......	7,013	12,623	18	
			3	......	37.80	62.20	......	3.16	......	......	......	......	......	8,172	14,710	28	
Same (1,200 feet northwest of shaft, west entry 3, 26¼-inch cut).	2791	A	1	10.12	30.25	46.82	12.81	2.66	......	......	......	......	7.6	......	......	332	535
			2	......	33.66	52.09	14.25	2.96	......	......	......	......	......	......	......	18	
			3	......	39.25	60.75	......	3.45	......	......	......	......	......	......	......	28	
Same (lump, over 1¼-inch bar screen)	2843	C	1	9.04	29.69	45.55	15.72	3.72	5.01	60.99	1.06	13.50	7.1	6,190	11,142	332	......
			2	......	32.64	50.08	17.28	4.09	4.41	67.05	1.17	6.00	......	6,805	12,249		
			3	......	39.45	60.55	......	4.93	5.33	81.06	1.41	7.27	......	8,227	14,809		
			4	......	......	......	......	......	5.61	85.28	1.48	7.63	......	8,537	15,367		

KENTUCKY.

BELL COUNTY.

Straight Creek, Straight Creek No. 2 mine, S raight Creek bed (main entry, 37-inch cut).	1321	A	1	2.91	36.01	57.55	3.53	.89	......	......	......	......	1.0	7,957	14,322	18	536
			2	......	37.09	59.27	3.64	.92	......	......	......	......	......	8,196	14,753	28	
			3	......	38.49	61.51	......	1.95	......	......	......	......	......	8,505	15,309	*48*	
Same (room 76, off main entry, 38½-inch cut)...	1322	A	1	2.81	37.08	57.31	2.80	.84	......	......	......	......	.9	......	......	18	536
			2	......	38.15	58.97	2.88	.86	......	......	......	......	......	......	......	28	
			3	......	39.28	60.72	......	.89	......	......	......	......	......	......	......	*48*	
Same (3,000 feet northeast of drift mouth, room 99, off main entry, 40½-inch cut).	2350	A	1	3.42	35.90	57.50	3.18	1.53	......	......	......	......	1.5	7,986	14,375	290	536
			2	......	37.17	59.54	3.29	1.58	......	......	......	......	......	8,269	14,884		
			3	......	38.44	61.56	......	1.63	......	......	......	......	......	8,550	15,390		
Same (3,600 feet from drift mouth, room 48, off north butt entry 4, 3½-foot cut).	2351	A	1	3.25	36.08	57.74	2.93	.91	......	......	......	......	1.2	......	......	290	536
			2	......	37.29	59.68	3.03	.94	......	......	......	......	......	......	......		
			3	......	38.45	61.55	......	.97	......	......	......	......	......	......	......		
Same (run of mine, first portion, 23 tons).......	1474	C	1	3.10	36.12	56.39	4.39	1.22	5.43	77.37	1.83	9.76	1.2	7,860	14,148	261	......
			2	......	37.28	58.19	4.53	1.26	5.25	79.85	1.89	7.22	......	8,112	14,602	*48*	
			3	......	39.05	60.95	......	1.32	5.50	83.63	1.98	7.57	......	8,497	15,295		
			4	......	......	......	......	......	5.58	84.75	2.01	7.66	......	8,580	15,444		
Same (run of mine, second portion, 12 tons)....	1522	C	1	2.95	35.65	55.63	5.77	1.20	......	......	......	......	1.2	......	......	261	......
			2	......	36.73	57.32	5.95	1.24	......	......	......	......	......	......	......	*48*	
			3	......	39.06	60.94	......	1.31	......	......	......	......	......	......	......		
Same (screenings, slack through 1½-inch screen).	2445	C	1	5.21	33.47	53.10	8.22	1.12	5.28	73.08	1.67	10.63	3.7	7,341	13,214	290	......
			2	......	35.31	56.02	8.67	1.18	4.96	77.10	1.76	6.33	......	7,745	13,941		
			3	......	38.66	61.34	......	1.29	5.43	84.41	1.93	6.94	......	8,480	15,264		
			4	......	......	......	......	......	5.50	85.51	1.96	7.03	......	8,562	15,412		
HARLAN COUNTY.																	
Big Black Mountain, prospect pit, High Splint bed (1 mile south of Gilliam's rock house, 73½-inch cut).	2271	A	1	4.45	36.27	56.05	3.23	.54	......	......	......	......	2.1	......	......	290	537
			2	......	37.96	58.66	3.38	.57	......	......	......	......	......	......	......	18	
			3	......	39.29	60.71	......	.59	......	......	......	......	......	......	......	28	
Same (Gilliam's rock house, 25 feet from outcrop, 58½-inch cut).	2272	A	1	4.72	35.74	57.06	2.48	.54	......	......	......	......	2.5	......	......	290	537
			2	......	37.51	59.89	2.60	.57	......	......	......	......	......	......	......	18	
			3	......	38.51	61.49	......	.59	......	......	......	......	......	......	......	28	
Same (weathered sample)......................	2270	A	1	4.32	36.04	57.36	2.28	.48	......	......	......	......	2.2	7,845	14,121	290	537
			2	......	37.67	59.95	2.38	.50	......	......	......	......	......	8,200	14,760	18	
			3	......	38.59	61.41	......	.51	......	......	......	......	......	8,399	15,118	28	
Same (run of mine)...........................	2528	C	1	4.36	35.02	56.92	3.70	.67	5.16	77.44	1.57	11.46	2.8	7,735	13,923	290	......
			2	......	36.62	59.51	3.87	.69	4.89	80.97	1.64	7.94	......	8,088	14,558		
			3	......	38.10	61.90	......	.73	5.09	84.23	1.71	8.24	......	8,413	15,143		
			4	......	......	......	......	......	5.13	84.83	1.72	8.32	......	8,458	15,224		
Poor Fork, near; mine on the **Anthony Blair tract**.....	4525	B	1	6.29	32.95	58.22	2.54	.52	......	......	......	......	4.5	......	......	......	538
			2	......	35.16	62.13	2.71	.55	......	......	......	......	......	......	......		
			3	......	36.14	63.86	......	.56	......	......	......	......	......	......	......		
Mine on the C. Blair tract.........................	4527	B	1	8.33	30.68	57.35	3.64	.56	......	......	......	......	5.6	......	......	......	538
			2	......	33.47	62.56	3.97	.61	......	......	......	......	......	......	......		
			3	......	34.85	65.15	......	.63	......	......	......	......	......	......	......		
Mine on the John Creek tract......................	4528	B	1	3.35	36.00	57.18	3.47	.71	......	......	......	......	1.7	......	......	......	538
			2	......	37.25	59.16	3.59	.73	......	......	......	......	......	......	......		
			3	......	38.64	61.36	......	.76	......	......	......	......	......	......	......		

[a] Samples 1 and 2 from widely separated parts of same mine.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
KENTUCKY—Continued.																	
HARLAN COUNTY—continued.																	
Poor Fork—Continued. Mine on the Rebecca Creek tract	4526	B	1	4.94	33.56	58.01	3.49	0.61					3.2				538
			2		35.31	61.02	3.67	.64									
			3		36.65	63.35		.66									
HOPKINS COUNTY.																	
Barnsley, Barnsley mine, No. 9 bed (west entry 3, 52-inch cut).	1361	A	1	9.10	36.21	46.64	8.05	2.97					3.3			18	538
			2		39.83	51.31	8.86	3.27								22	
			3		43.70	56.30		3.59								48	
Same (break-through between north entries 3 and 4, 4½-foot cut).	1367	A	1	7.98	37.55	45.17	9.30	4.03					2.2	6,647	11,965	18	538
			2		40.81	49.08	10.11	4.38						7,223	13,001	22	
			3		45.40	54.60		4.87						8,037	14,467	48	
Same (over ⅞-inch screen, 17 tons)	1505	C	1	7.84	37.01	47.23	7.92	2.94					1.6			48	
			2		40.16	51.25	8.59	3.19									
			3		43.94	56.06		3.49									
Same (run of mine, 12 tons)	1506	C	1	7.92	36.09	45.93	10.06	3.52	5.39	65.29	1.40	14.34	2.2	6,679	12,022	261	
			2		39.19	49.83	10.98	3.82	4.90	70.90	1.52	7.88		7,253	13,055	48	
			3		44.00	56.00		4.29	5.50	79.60	1.71	8.90		8,143	14,657		
			4						5.74	83.17	1.78	9.31		8,406	15,131		
Earlington, No. 11 mine, No. 11 bed (room 10 off west entry 3, 84-inch cut).	1365	A	1	8.49	38.05	46.36	7.10	3.53					2.9	6,858	12,344	22	539
			2		41.58	50.66	7.76	3.86						7,494	13,489	48	
			3		45.08	54.92		4.18						8,125	14,625		
Same (room 15 off west entry 4, 62-inch cut)	1366	A	1	7.80	37.60	44.38	10.22	4.20					2.6			261	539
			2		40.78	48.14	11.08	4.56								48	
			3		45.86	54.14		5.13									
Same (over ⅞-inch screen, 20 tons)	1461	C	1	7.91	37.94	45.02	9.13	3.62	5.48	65.81	1.22	14.74	2.7	6,778	12,200	261	
			2		41.20	48.89	9.91	3.93	5.00	71.46	1.32	8.38		7,360	13,248	48	
			3		45.73	54.27		4.36	5.54	79.33	1.47	9.30		8,170	14,706		
			4						5.80	82.94	1.54	9.72		8,440	15,192		
Same (through ⅞-inch screen, 5 tons)	1469	C	1	9.47	33.34	39.51	17.68	4.47					4.2				
			2		36.83	43.64	19.53	4.94								48	
			3		45.77	54.23		6.14									

JOHNSON COUNTY.																	
Flambeau, southeast of; 400 yards up mountain side, Flambeau mine, Cannel bed,[a] on chain pillar (150 feet southeast of opening, main entry 1, 18-inch cut).	7133	A	1	2.36	48.40	38.75	10.49	1.20	6.47	71.98	1.16	8.70	1.5	7,650	13,770	......	540
			2	......	49.57	39.69	10.74	1.23	6.36	73.72	1.19	6.76	......	7,835	14,103		
			3	......	55.53	44.47	......	1.38	7.13	82.59	1.33	7.57	......	8,778	15,800		
Same (250 feet southeast of opening, entry 5, 51½-inch cut).	7132	A	1	2.20	50.64	36.70	10.46	.99	6.57	72.01	1.17	8.80	1.3	7,638	13,748	......	540
			2	......	51.78	37.52	10.70	1.01	6.47	73.63	1.20	6.99	......	7,810	14,058		
			3	......	57.98	42.02	......	1.13	7.25	82.45	1.34	7.83	......	8,746	15,733		
Lesley (East Point post office), Lesley mine, Lesley bed, cannel coal	5437	A	1	1.70	50.76	38.23	9.31	1.02	6.83	73.25	1.31	8.28	.4	7,917	14,251	......	540
			2	......	51.64	38.89	9.47	1.04	6.75	74.52	1.33	6.89	......	8,054	14,497		
			3	......	57.04	42.96	......	1.15	7.46	82.31	1.47	7.61	......	8,896	16,013		
Paintsville, 5 miles southeast of; Miller Creek, country bank, Miller Creek bed (100 feet west of drift mouth, right entry 1, 3½-foot cut).	2405	A	1	6.95	35.03	55.99	2.03	.48	......	......	......	......	4.5	7,604	13,687	290	540
			2	......	37.65	60.17	2.18	.52	......	......	......	......	......	8,172	14,710	18	
			3	......	38.49	61.51	......	.53	......	......	......	......	......	8,354	15,033	23	
Same (140 feet west of drift mouth, main entry, 3½-foot cut).	2406	A	1	6.52	34.42	56.80	2.26	.45	......	......	......	......	4.2	......	......	290	540
			2	......	36.82	60.76	2,42	.48	......	......	......	......	......	......	......	18	
			3	......	37.73	62.27	......	.49	......	......	......	......	......	......	......	23	
Same (run of mine)	2592	C	1	5.12	36.49	55.63	2.76	.57	5.47	77.20	1.45	12.55	2.2	7,635	13,743	290	......
			2	......	38.46	58.63	2.91	.60	5.16	81.37	1.53	8.43	......	8,047	14,485		
			3	......	39.61	60.39	......	.62	5.32	83.80	1.57	8.69	......	8,288	14,918		
			4	......	......	......	......	......	5.35	84.32	1.58	8.75	......	8,325	14,985		
Van Lear, Mine No. 1, No. 1 bed (face of No. 1 right heading, No. 1 opening, 55½-inch cut).	10548	A	1	7.17	35.18	55.17	2.48	.50	......	......	......	......	4.4	......	......	......	541
			2	......	37.90	59.43	2.67	.54	......	......	......	......	......	......	......		
			3	......	38.94	61.06	......	.55	......	......	......	......	......	......	......		
Same (face of second left, off west opening of No. 1 mine, 53½-inch cut).	10549	A	1	5.61	36.44	53.85	4.10	1.70	......	......	......	......	3.0	......	......	......	541
			2	......	38.60	57.06	4.34	1.80	......	......	......	......	......	......	......		
			3	......	40.35	59.65	......	1.88	......	......	......	......	......	......	......		
Same (composite of Nos. 10548 and 10549)	10550	A	1	6.43	36.20	54.13	3.24	1.17	5.69	74.91	1.47	13.52	3.7	7,475	13,455	......	541
			2	......	38.69	57.85	3.46	1.25	5.32	80.06	1.57	8.34	......	7,989	14,380		
			3	......	40.08	59.92	......	1.29	5.51	82.93	1.63	8.64	......	8,275	14,895		
No. 2 mine (face of first right, 36-inch cut)	10551	A	1	6.32	36.30	54.07	3.31	1.79	5.73	74.94	1.46	12.77	3.5	7,458	13,424	......	541
			2	......	38.76	57.70	3.54	1.90	5.37	80.00	1.56	7.63	......	7,962	14,332		
			3	......	40.19	59.81	......	1.97	5.57	82.94	1.62	7.90	......	8,254	14,857		
No. 3 mine (face of main entry, 39-inch cut)	10552	A	1	6.60	35.27	54.87	3.26	1.44	5.72	74.79	1.35	13.44	4.1	7,427	13,369	......	541
			2	......	37.77	58.74	3.49	1.54	5.34	80.09	1.45	8.09	......	7,953	14,315		
			3	......	39.14	60.86	......	1.60	5.53	82.99	1.50	8.33	......	8,241	14,834		
No. 4 mine (face of main entry, 44-inch cut)	10553	A	1	6.90	34.93	55.88	2.29	.63	5.80	76.07	1.47	13.74	4.1	7,484	13,471	......	541
			2	......	37.52	60.02	2.46	.68	5.40	81.71	1.58	8.17	......	8,039	14,470		
			3	......	38.47	61.53	......	.70	5.54	83.77	1.62	8.37	......	8,242	14,836		
LETCHER COUNTY.																	
Jewel, 3 miles southwest of; Potter bank, on Bens Branch of Elkhorn Creek, Upper Elkhorn bed, 96-inch cut.	3828	B	1	3.96	32.37	61.10	2.57	.56	......	......	......	......	1.9	......	......	316	542
			2	......	33.70	63.62	2.68	.57	......	......	......	......	......	......	......	348	
			3	......	34.63	65.37	......	.59	......	......	......	......	......	......	......		

[a] About 300 feet above Miller Creek (No. 1) bed.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
KENTUCKY—Continued.																	
MUHLENBERG COUNTY.																	
Central City, Central mine, No. 9 bed (1¼ miles northeast of shaft, room 43 off north entry 14, 55¾-inch cut).	2453	A	1	8.76	35.02	46.80	9.42	4.07	......	......	......	......	5.7	6,647	11,965	290	542
			2	......	38.38	51.30	10.32	4.46	......	......	......	......	......	7,285	13,113	18	
			3	......	42.80	57.20	......	4.97	......	......	......	......	......	8,124	14,623	28	
Same (1¼ miles south of shaft, room 9 off south entry 14, 58½-inch cut).	2454	A	1	8.75	34.00	46.48	10.77	3.69	......	......	......	......	3.9	......	......	290	542
			2	......	37.26	50.94	11.80	4.04	......	......	......	......	......	......	......	18	
			3	......	42.25	57.75	......	4.58	......	......	......	......	......	......	......	28	
Same (lump, over 1½-inch bar screen)..........	2595	C	1	8.47	35.24	46.81	9.48	3.60	5.24	65.77	1.28	14.63	3.0	6,659	11,986	290	......
			2	......	38.50	51.14	10.36	3.93	4.70	71.85	1.40	7.76	......	7,275	13,095		
			3	......	42.95	57.05	......	4.39	5.24	80.16	1.56	8.65	......	8,116	14,609		
			4	......	......	......	......	......	5.48	83.83	1.63	9.06	......	8,383	15,088		
OHIO COUNTY.																	
McHenry, 2 miles west of; Broadway mine, No. 9 bed (200 feet west of shaft, 53¾-inch cut).	3722	A	1	10.03	36.06	46.24	7.67	2.56	......	......	......	......	3.3	6,709	12,076	332	543
			2	......	40.08	51.39	8.53	2.85	......	......	......	......	......	7,457	13,423	336	
			3	......	43.82	56.18	......	3.12	......	......	......	......	......	8,152	14,674	28	
Same (550 feet north of shaft, 52½-inch cut).....	3723	A	1	9.89	35.70	45.72	8.69	2.45	......	......	......	......	2.9	6,626	11,927	332	543
			2	......	39.62	50.74	9.64	2.72	......	......	......	......	......	7,353	13,235	336	
			3	......	43.85	56.15	......	3.01	......	......	......	......	......	8,138	14,648	28	
Same (nut, through 1½-inch screen and over ¾-inch screen).	3865	C	1	8.70	35.00	47.34	8.96	3.14	5.61	65.63	1.20	15.46	3.5	6,710	12,078	332	......
			2	......	38.34	51.85	9.81	3.44	5.08	71.88	1.31	8.48	......	7,349	13,228		
			3	......	42.51	57.49	......	3.81	5.65	79.71	1.45	9.38	......	8,149	14,668		
			4	......	......	......	......	......	5.86	82.87	1.52	9.75	......	8,383	15,089		
Same (run of mine).........................	4211	C	1	8.04	32.63	49.28	10.05	2.97	5.33	65.41	1.33	14.91	4.3	6,685	10,233	......	......
			2	......	35.48	53.59	10.93	3.23	4.83	71.13	1.45	8.43	......	7,269	13,084		
			3	......	39.84	60.16	......	3.63	5.42	79.86	1.62	9.47	......	8,162	14,692		
			4	......	......	......	......	......	5.62	82.86	1.68	9.84	......	8,382	15,088		
PIKE COUNTY.																	
Hellier, Greenough mine, just above mouth of Cassell Fork of Marrowbone Creek (600 feet from entrance, whole Upper Elkhorn bed (46½-inch cut).	3708	B	1	4.03	32.46	58.73	4.78	.74	......	......	......	......	2.8	......	......	316	544
			2	......	33.82	61.20	4.98	.77	......	......	......	......	......	......	......	348	
			3	......	35.59	64.41	......	.81	......	......	......	......	......	......	......		
1 mile above, Pike mine, on Cassell Fork of Marrowbone Creek, Lower Elkhorn bed, 720 feet	3706	B	1	3.35	31.76	60.81	4.08	.54	......	......	......	......	1.7	......	......	316	544
			2	......	32.86	62.92	4.22	.56	......	......	......	......	......	......	......	348	

from entrance, excluding laminated coal, 32-inch cut).			3	......	34.31	65.69	......	.58	......	......	......	......	......	......	......		
Same (laminated coal only, 22-inch upper bench, composite sample).	3702	B	1	3.19	25.83	48.61	22.37	.40	......	......	......	......	1.8	......	......	316	544
			2	......	26.68	50.21	23.11	.41	......	......	......	......	......	......	......	348	
			3	......	34.70	65.30	......	.53	......	......	......	......	......	......	......		
Same (whole bed, 54-inch cut)	3705	B	1	2.90	28.59	53.70	14.81	.49	......	......	......	......	1.3	......	......	316	544
			2	......	29.44	55.31	15.25	.50	......	......	......	......	......	......	......	348	
			3	......	34.74	65.26	......	.59	......	......	......	......	......	......	......		
Same (500 feet south and 600 feet west of opening, 75 feet from outcrop, right heading 1, 48-inch cut).	6928	A	1	3.73	30.01	59.42	6.84	.56	5.07	76.30	1.06	10.17	2.6	7,583	13,649	6	544
			2	......	31.17	61.73	7.10	.58	4.84	79.25	1.10	7.13	......	7,876	14,177		
			3	......	33.55	66.45	......	.62	5.21	85.31	1.18	7.68	......	8,478	15,260		
Same (1,600 feet south of opening, main heading, right parallel entry 4, 43¾-inch cut).	6929	A	1	3.41	32.08	58.78	5.73	.53	5.22	77.01	1.18	10.33	2.0	7,738	13,928	6	544
			2	......	33.21	60.86	5.93	.55	5.01	79.73	1.22	7.56	......	8,011	14,420		
			3	......	35.30	64.70	......	.58	5.32	84.75	1.30	8.05	......	8,516	15,328		
2½ miles west of; at head of Cassell Fork, Musgrove prospect pit, Flatwoods bed, 6⅔-foot cut from top bench.	3829	B	1	3.45	33.69	54.61	8.25	.82	......	......	......	......	1.7	......	......	316	545
			2	......	34.89	56.57	8.54	.85	......	......	......	......	......	......	......	348	
			3	......	38.15	61.85	......	.93	......	......	......	......	......	......	......		
Regina, near; at Coleman Hollow, Coleman mine, Millard 52-inch bed.	3662	B	1	3.00	32.22	56.59	8.19	1.06	......	......	......	......	1.4	......	......	316	546
			2	......	33.22	58.34	8.44	1.09	......	......	......	......	......	......	......	348	
			3	......	36.28	63.72	......	1.19	......	......	......	......	......	......	......		
2 miles east of; Martin bank on right-hand branch of Road Creek, Lower Elkhorn, excluding laminated coal, bed, 49-inch cut, 40 feet from entry.	3663	B	1	4.73	31.62	61.57	2.08	.71	......	......	......	......	3.2	......	......	316	546
			2	......	33.19	64.63	2.18	.75	......	......	......	......	......	......	......	348	
			3	......	33.93	66.07	......	.77	......	......	......	......	......	......	......		
4 miles south of; Pond Creek, just below mouth of Laurel Branch, Moore bank, 30 feet from entrance, Lower Elkhorn (whole) bed, 52-inch cut.	3661	B	1	5.27	27.74	59.75	7.24	.50	......	......	......	......	3.4	......	......	316	547
			2	......	29.28	63.08	7.64	.53	......	......	......	......	......	......	......	348	
			3	......	31.70	68.30	......	.57	......	......	......	......	......	......	......		
UNION COUNTY.																	
Sturgis, 2½ miles southwest of; Bell slope, No. 1 bed (100 feet north of opening, 31½-inch cut).	3678	A	1	7.46	30.69	57.25	4.60	.97	......	......	......	......	5.1	7,494	13,489	332	547
			2	......	33.16	61.87	4.97	1.05	......	......	......	......	......	8,098	14,576	336	
			3	......	34.89	65.11	......	1.10	......	......	......	......	......	8,522	15,340	28	
Same (60 feet north of opening, 33¾-inch cut)	3679	A	1	8.09	30.10	56.65	5.16	1.07	......	......	......	......	5.7	......	......	332	547
			2	......	32.75	61.64	5.61	1.16	......	......	......	......	......	......	......	336	
			3	......	34.70	65.30	......	1.23	......	......	......	......	......	......	......	28	
Same (run of mine)	3860	C	1	5.46	30.99	55.63	7.92	1.18	5.07	72.59	1.19	12.05	3.2	7,355	13,239	332	......
			2	......	32.78	58.84	8.38	1.25	4.72	76.78	1.26	7.61	......	7,780	14,004		
			3	......	35.78	64.22	......	1.36	5.15	83.81	1.37	8.31	......	8,491	15,284		
			4	......	......	......	......	......	5.22	84.96	1.39	8.43	......	8,577	15,439		
WEBSTER COUNTY.																	
Wheatcroft, Wheatcroft mine, No. 11 bed (room 8 off west shaft entry, 70-inch cut).	1382	A	1	4.61	38.17	49.82	7.40	3.33	......	......	......	......	2.6	7,145	12,861	28	548
			2	......	40.01	52.23	7.76	3.49	......	......	......	......	......	7,490	13,482	48	
			3	......	43.37	56.63	......	3.78	......	......	......	......	......	8,120	14,616		
Same (west entry 2, 65-inch cut)	1384	A	1	4.76	39.72	48.51	7.01	3.21	......	......	......	......	2.0	......	......	28	548
			2	......	41.71	50.93	7.36	3.37	......	......	......	......	......	......	......	48	
			3	......	45.02	54.98	......	3.64	......	......	......	......	......	......	......		
Same (run of mine)	1539	C	1	5.27	35.07	45.48	14.18	4.54	4.71	64.65	1.24	10.68	2.8	6,639	11,950	261	......
			2	......	37.02	48.01	14.97	4.79	4.35	68.24	1.31	6.34	......	7,009	12,614	48	
			3	......	43.54	56.46	......	5.64	5.10	80.26	1.54	7.46	......	8,242	14,836		
			4	......	......	......	......	......	5.42	85.06	1.63	7.89	......	8,600	15,480		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
KENTUCKY—Continued.																	
WEBSTER COUNTY—continued.																	
Wheatcroft—Continued.																	
1¼ miles east of; No. 5 mine, 500 feet from mouth, room 5, south heading 1 off east entry, Owen (No. 11) bed, 59¼ inches.	7441	A	1	6.29	31.97	54.13	7.61	1.35	5.49	69.78	1.37	14.40	4.5	7,152	12,874	6	548
			2		34.11	57.77	8.12	1.44	5.11	74.46	1.46	9.41		7,632	13,738		
			3		37.13	62.87		1.57	5.56	81.04	1.59	10.24		8,307	14,953		
WHITLEY COUNTY.																	
Barthell, No. 1 mine, room 14, left entry 6, No. 2 bed, 48-inch bed.	10062	A	1	2.86	40.15	47.47	9.52	3.07	5.42	71.13	1.11	9.75	1.4	7,215	12,987		549
			2		41.33	48.87	9.80	3.16	5.25	73.22	1.14	7.43		7,427	13,369		
			3		45.82	54.18		3.50	5.82	81.17	1.26	8.25		8,234	14,821		
Kensee, Main Jellico mines (new mine), Jelico bed	1329	A	1	5.02	36.08	54.47	4.43	.92					2.6	7,560	13,608		549
			2		37.99	57.35	4.66	.97						7,960	14,328		
			3		39.85	60.15		1.02						8,349	15,028		
Same (old mine)	1330	A	1	5.51	35.24	56.70	2.55	.90					2.4				549
			2		37.29	60.01	2.70	.95									
			3		38.32	61.68		.98									
MARYLAND.																	
ALLEGANY COUNTY.																	
Eckhart, Ocean No. 3½ mine, Big Vein bed (first crosscut on motor road No. 2, 8 feet 5½ inches).	8769	A	1	2.3	14.5	75.0	8.2	1.10					1.5	7,790	14,020		550
			2		15.0	76.6	8.4	1.10						7,975	14,360		
			3		16.5	83.5		1.20						8,705	15,670		
Same (left heading 1, 50 feet from motor road, 87½-inch cut).	8770	A	1	2.2	15.5	74.0	8.3	1.15					1.5				550
			2		16.0	75.5	8.5	1.15									
			3		17.5	82.5		1.30									
Same (left heading 1, off main heading, 38-inch cut).	8771	A	1	3.0	14.5	73.3	9.2	1.00					2.2				550
			2		15.0	75.6	9.4	1.00									
			3		16.5	83.5		1.10									
Same (composite of Nos. 8769–8771)	8843		1	2.7	14.5	74.0	8.80	1.00	4.44	79.21	1.69	4.86	1.9	7,725	13,910		550
			2		15.0	76.0	9.04	1.03	4.25	81.39	1.74	2.55		7,940	14,290		
			3		16.5	83.5		1.13	4.67	89.48	1.91	2.81		8,730	15,710		

Washington No. 1 mine, Pittsburgh bed (2,100 feet northwest of drift mouth, Cannon's heading, 79¾-inch cut).	6358	A	1	3.64	16.07	72.09	8.20	.99	......	......	......	......	2.9	7,715	13,887	......	551
			2	......	16.68	74.81	8.51	1.03	......	......	......	......	......	8,007	14,413		
			3	......	18.23	81.77	......	1.13	......	......	......	......	......	8,752	15,754		
Same (2,000 feet southwest of drift mouth, inside place for main heading, 78-inch cut).	6359	A	1	2.85	16.07	73.55	7.53	1.03	......	......	......	......	2.0	7,836	14,105	......	551
			2	......	16.54	75.71	7.75	1.06	......	......	......	......	......	8,066	14,519		
			3	......	17.93	82.07	......	1.15	......	......	......	......	......	8,744	15,739		
Washington No. 2 mine, Upper Sewickley or Tyson bed (2,800 feet west of drift mouth, room 6, off right entry 1, off south entry 4, 47½-inch cut).	6356	A	1	2.99	15.73	73.76	7.52	.95	......	......	......	......	2.3	7,864	14,155	......	551
			2	......	16.21	76.04	7.75	.98	......	......	......	......	......	8,106	14,591		
			3	......	17.57	82.43	......	1.06	......	......	......	......	......	8,787	15,817		
Same (3,600 feet south of drift mouth, south heading 5, 42-inch cut).	6357	A	1	2.31	17.49	71.51	8.69	1.62	......	......	......	......	1.6	7,790	14,022	......	551
			2	......	17.90	73.20	8.9	1.66	......	......	......	......	......	7,974	14,353		
			3	......	19.66	80.34	......	1.82	......	......	......	......	......	8,753	15,755		
Same (room 3, south entry 7, off main entry, 47¾-inch cut).	8863	A	1	3.4	13.5	76.2	6.9	1.10	......	......	......	......	2.5	......	......	......	551
			2	......	14.0	78.9	7.1	1.10	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	1.20	......	......	......	......	......	......	......		
Same (room 2, right entry 1, off south entry 4, 40-inch cut).	8864	A	1	3.4	15.0	75.3	6.3	.90	......	......	......	......	2.5	......	......	......	551
			2	......	15.5	78.0	6.5	.90	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	.95	......	......	......	......	......	......	......		
Same (pillar of room 4, south entry 18, 41½-inch cut).	8865	A	1	4.3	13.5	75.7	6.5	.85	......	......	......	......	3.3	7,775	13,990	......	551
			2	......	14.0	79.2	6.8	.85	......	......	......	......	......	8,120	14,620		
			3	......	15.5	84.5	......	.95	......	......	......	......	......	8,710	15,680		
Same (composite of Nos. 8863, 8864, and 8865)..	8932	A	1	3.4	15.0	75.1	6.5	1.04	4.63	80.69	1.55	5.60	2.5	7,865	14,160	......	551
			2	......	15.5	77.8	6.7	1.08	4.40	83.51	1.60	2.69	......	8,140	14,650		
			3	......	16.5	83.5	......	1.16	4.72	89.52	1.72	2.88	......	8,725	15,710		
Frostburg, 1½ miles northeast of; Tyson No. 9 mine, Upper Sewickley or Tyson bed (950 feet northeast of drift mouth, room 8, right entry 1 off left entry 1, 37¾-inch cut).	6363	A	1	2.79	17.21	71.50	8.50	2.05	......	......	......	......	2.1	7,748	13,946	......	552
			2	......	17.70	73.56	8.74	2.11	......	......	......	......	......	7,970	14,346		
			3	......	19.40	80.60	......	2.31	......	......	......	......	......	8,734	15,721		
Same (2,200 feet southeast of drift mouth, right blind opening 5, 35¾-inch cut).	6361	A	1	3.06	17.01	73.54	6.39	.96	......	......	......	......	2.4	7,930	14,274	......	552
			2	......	17.55	75.86	6.59	.99	......	......	......	......	......	8,181	14,726		
			3	......	18.79	81.21	......	1.06	......	......	......	......	......	8,758	15,764		
Same (left entry 3, off right entry 1, B opening, 1,000 feet southeast of mouth of mine).	6362	A	1	2.66	18.07	71.72	7.55	1.00	......	......	......	......	2.0	7,831	14,096	......	552
			2	......	18.56	73.68	7.76	1.03	......	......	......	......	......	8,045	14,481		
			3	......	20.12	79.88	......	1.12	......	......	......	......	......	8,722	15,700		
1½ miles southwest of; Tyson (pumping shaft) mine, Upper Sewickley or Tyson bed (50 feet from shaft, new main heading, 34¾-inch cut).	6354	A	1	2.95	16.92	73.00	7.13	1.32	......	......	......	......	2.4	7,848	14,126	......	553
			2	......	17.43	75.22	7.35	1.36	......	......	......	......	......	8,067	14,557		
			3	......	18.81	81.19	......	1.47	......	......	......	......	......	8,728	15,710		
2 miles south of; Ocean No. 3 (Hoffman) mine, Big Vein or Pittsburgh bed (13,000 feet southwest of slope, room 2, right heading 5, 9½-foot cut).	6352	A	1	2.63	16.19	73.86	7.32	.94	......	......	......	......	2.0	7,910	14,238	......	553
			2	......	16.63	75.85	7.52	.97	......	......	......	......	......	8,124	14,623		
			3	......	17.98	82.02	......	1.05	......	......	......	......	......	8,784	15,811		
Same (room 4, left entry 3, off north, 8-foot cut)..	6353	A	1	2.66	15.68	73.88	7.78	.88	......	......	......	......	2.1	7,823	14,081	......	553
			2	......	16.11	75.90	7.99	.90	......	......	......	......	......	8,037	14,467		
			3	......	17.51	82.49	......	.98	......	......	......	......	......	8,735	15,723		
Same (pillar in left entry 2, near room 7, 105-inch cut).	8757	A	1	2.5	14.0	75.4	8.1	1.25	......	......	......	......	1.7	......	......	......	554
			2	......	14.5	77.2	8.3	1.25	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	1.35	......	......	......	......	......	......	......		
Same (pillar of room 33, off crossheading 1, 113½-inch cut).	8758	A	1	2.4	14.5	75.8	7.3	.95	......	......	......	......	1.6	......	......	......	554
			2	......	15.0	77.5	7.5	1.00	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	1.05	......	......	......	......	......	......	......		
Same (pillar of room 11, cross 1, off Klondike entry, 95-inch cut).	8759	A	1	2.7	14.5	75.1	7.7	.85	......	......	......	......	1.8	......	......	......	554
			2	......	15.0	77.1	7.9	.90	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	.95	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
MARYLAND—Continued.																	
ALLEGANY COUNTY—continued.																	
Frostburg, Ocean No. 3 (Hoffman) mine—Continued.																	
Same (composite of Nos. 8757, 8758, and 8759)	8840	A	1	3.2	14.5	75.6	6.7	.92	4.51	80.99	1.77	5.11	2.2	7,835	14,100		553
			2		15.0	78.1	6.9	.95	4.30	83.64	1.83	2.36		8,090	14,560		
			3		16.0	84.0		1.02	4.62	89.85	1.97	2.54		8,690	15,640		
Same (room 4, right entry 4, off Klondike entry, 9-foot 9-inch cut).	8760	A	1	3.2	14.0	75.4	7.4	.95					2.4				553
			2		14.5	77.9	7.6	.95									
			3		15.5	84.5		1.05									
Same (room 10, right entry 8, off Klondike entry, 10-foot 7-inch cut).	8761	A	1	2.7	15.0	75.2	7.1	.90									553
			2		15.0	77.7	7.3	.95									
			3		16.5	83.5		1.00									
Same (350 feet northeast of the shaft, in shaft heading, 2½-foot cut).	8762	A	1	3.1	15.5	75.5	5.9	.95					2.3				553
			2		16.0	77.9	6.1	.95									
			3		17.0	83.0		1.00									
Same (composite of Nos. 8760, 8761, and 8762)	8841	A	1	2.5	14.0	75.8	7.7	1.00	4.36	80.11	1.53	5.29	1.7	7,840	14,110		553
			2		14.0	78.1	7.9	1.03	4.18	82.16	1.57	3.15		8,040	14,470		
			3		15.5	84.5		1.12	4.54	89.22	1.70	3.42		8,730	15,720		
Lord, ½ mile west of; Ocean No. 7 mine, Big Vein or Pittsburgh bed (6,600 feet southwest of opening, 107½-inch cut).	4334	A	1	2.54	18.23	73.09	6.14	.87					2 0			332 23	554
			2		18.71	74.99	6.30	.89									
			3		19.97	80.03		.95									
Same (4,500 feet south of opening, 95-inch cut)	4335	A	1	2.47	18.17	73.06	6.30	.79					1.8	7,960	14,328	332 23	554
			2		18.63	74.91	6.46	.81						8,162	14,692		
			3		19.92	80.08		.87									
Same (run of mine)	4386	C	1	3.42	17.65	71.84	7.09	.84	4.72	80.17	1.45	5.73	2.7	7,868	14,162		
			2		18.27	74.39	7.34	.87	4.49	83.01	1.50	2.79		8,147	14,665		
			3		19.72	80.28		.94	4.85	89.58	1.62	3.01		8,792	15,826		
			4						4.90	90.43	1.64	3.03		8,853	15,935		
Same (4,500 feet southeast of slope, room 1, left midway 5, 103-inch cut).	6351	A	1	3.73	17.38	72.59	6.30	.78					3.2	7,876	14,177		554
			2		18.05	75.41	6.54	.81						8,181	14,726		
			3		19.31	80.69		.87						8,754	15,757		
Same (1,700 feet southwest of slope, room 7, right midway 1, 104¾-inch cut).	6364	A	1	2.57	17.91	73.62	5.90	.93					1.9	8,027	14,449		554
			2		18.38	75.56	6.06	.95						8,239	14,830		
			3		19.57	80.43		1.01						8,770	15,786		
Same (3,600 feet northeast of slope, room 7, left heavy grade 3, 113-inch cut).	6365	A	1	2.14	17.46	74.15	6.25	.87					1.5	8,034	14,461		554
			2		17.84	75.77	6.39	.89						8,210	14,778		
			3		19.06	80.94		.95						8,771	15,788		

Same (4,600 feet south, 30° east of slope, right entry 5, midway slope, crosscut, room 8, 10-foot bed, 8-foot 7½-inch cut).	7235	A	1	2.26	16.05	75.86	5.83	.79	4.68	82.45	1.73	4.52	1.7	8,046	14,483	......	554
			2	......	16.42	77.62	5.96	.81	4.53	84.35	1.77	2.58	......	8,232	14,818		
			3	......	17.46	82.54	......	.86	4.82	89.70	1.88	2.74	......	8,754	15,757		
Same (2,500 feet east of slope, crosscut heading 2, off left heavy grade 3, room 16, bed 9 feet 11 inches, 9-foot ½-inch cut).	7234	A	1	1.86	15.70	74.82	7.62	.90	4.52	80.87	1.76	4.33	1.3	7,887	14,197	......	554
			2	......	16.00	76.24	7.76	.92	4.39	82.41	1.79	2.73	......	8,037	14,467		
			3	......	17.35	82.65	......	1.00	4.76	89.34	1.94	2.96	......	8,713	15,683		
Same (room 4, off straight heading between cross entries 2 and 3, left entry 2, off heavy grade slope, 9-foot 1¼-inch cut).	8779	A	1	2.4	17.0	73.6	7.0	.95	......	......	......	......	1.7	......	......	......	554
			2	......	17.5	75.4	7.1	.95	......	......	......	......	......	......	......		
			3	......	19.0	81.0	......	1.05	......	......	......	......	......	......	......		
Same (room 7, right entry 4, off midway slope, 9-foot 1¼-inch cut).	8780	A	1	2.9	14.5	76.3	6.3	.85	......	......	......	......	2.2	......	......	......	554
			2	......	15.0	78.5	6.5	.85	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.95	......	......	......	......	......	......	......		
Same (pillar of room 22, off right entry 2, midway slope, 9-foot 3-inch cut).	8781	A	1	2.4	15.0	76.3	6.3	.90	......	......	......	......	1.6	......	......	......	554
			2	......	15.5	78.1	6.4	.90	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	.95	......	......	......	......	......	......	......		
Same (room 6, off straight entry, between cross entries 2 and 3, left entry 3, off heavy grade slope, 8-foot 10-inch cut).	8782	A	1	2.5	15.5	75.0	7.0	.80	......	......	......	......	1.8	......	......	......	554
			2	......	16.0	76.8	7.2	.85	......	......	......	......	......	......	......		
			3	......	17.0	83.0	......	.90	......	......	......	......	......	......	......		
Same (pillar in room 5, left entry 1, off heavy grade slope, 9-foot ½-inch cut).	8783	A	1	2.9	16.0	74.0	7.1	.90	......	......	......	......	2.2	......	......	......	554
			2	......	16.5	76.2	7.3	.95	......	......	......	......	......	......	......		
			3	......	17.5	82.5	......	1.00	......	......	......	......	......	......	......		
Same (room 1, right entry 3, off heavy grade slope, 8-foot 8¾-inch cut).	8817	A	1	2.7	14.5	75.7	7.1	.80	......	......	......	......	2.0	......	......	......	554
			2	......	15.0	77.7	7.3	.80	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.85	......	......	......	......	......	......	......		
Same (room 3, stub dip heading, off midway slope, 8-foot 8¾-inch cut).	8831	A	1	2.9	15.0	75.2	6.9	.70	......	......	......	......	2.0	......	......	......	554
			2	......	15.5	77.4	7.1	.75	......	......	......	......	......	......	......		
			3	......	17.0	83.0	......	.80	......	......	......	......	......	......	......		
Same (pillar of cross entry 2, right entry 4, midway slope, 104¼-inch cut).	8832	A	1	3.0	15.0	76.3	5.7	.75	......	......	......	......	2.1	......	......	......	554
			2	......	15.5	78.7	5.8	.75	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	.80	......	......	......	......	......	......	......		
Same (composite of Nos. 8779, 8780, 8782, 8817, 8831, 8859, and 8860).	8838	A	1	3.0	14.5	75.6	6.9	.85	4.52	80.37	1.82	5.52	2.1	7,910	14,240	......	554
			2	......	14.5	78.4	7.1	.88	4.32	82.81	1.88	2.98	......	8,150	14,670		
			3	......	16.0	84.	......	.95	4.65	89.17	2.02	3.21	......	8,775	15,800		
Same (composite of Nos. 8781, 8783, 8832, and 8861).	8839	A	1	2.6	15.5	75.1	6.8	.89	4.60	81.34	1.81	4.58	2.0	7,975	14,360	......	554
			2	......	16.0	77.0	7.0	.91	4.43	83.54	1.86	2.30	......	8,195	14,750		
			3	......	17.5	82.5	......	.98	4.76	89.79	2.00	2.47	......	8,805	15,850		
Same (room 10, left entry 5, off heavy grade slope, 120-inch cut).	8859	A	1	2.6	14.5	76.2	6.7	.90	......	......	......	......	1.9	......	......	......	554
			2	......	15.0	78.1	6.9	.95	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	1.00	......	......	......	......	......	......	......		
Same (room 8, right entry 1, off heavy grade slope, 9-foot 5-inch cut).	8860	A	1	3.6	15.5	73.6	7.3	.75	......	......	......	......	2.6	......	......	......	554
			2	......	16.0	76.4	7.6	.80	......	......	......	......	......	......	......		
			3	......	17.5	82.5	......	.85	......	......	......	......	......	......	......		
Same (pillar in room 2, left entry 4, off midway slope, 9-foot 1¾-inch cut).	8861	A	1	2.7	15.5	74.0	7.8	1.00	......	......	......	......	1.9	......	......	......	554
			2	......	16.0	76.0	8.0	1.05	......	......	......	......	......	......	......		
			3	......	17.5	82.5	......	1.10	......	......	......	......	......	......	......		
½ mile west of; Tyson No. 7 mine, Tyson bed (room 4, off first left heading, 3½-foot cut).	8818	A	1	3.3	17.5	73.2	6.0	.90	......	......	......	......	2.5	......	......	......	557
			2	......	18.0	75.8	6.2	.95	......	......	......	......	......	......	......		
			3	......	19.5	80.5	......	1.00	......	......	......	......	......	......	......		
Same (right heading 3, 3-foot cut).............	8819	A	1	3.8	16.5	71.8	7.9	.85	......	......	......	......	3.1	......	......	......	557
			2	......	17.5	74.3	8.2	.90	......	......	......	......	......	......	......		
			3	......	19.0	81.0	......	.95	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
MARYLAND—Continued.																	
ALLEGANY COUNTY—continued.																	
Lord, Tyson No. 7 mine—Continued.																	
Same (right heading 1, 3¼-foot cut)	8820	A	1	2.9	16.5	73.3	7.3	.95	......	......	......	......	2.2	......	......	......	557
			2	......	17.0	75.5	7.5	1.00	......	......	......	......	......	......	......		
			3	......	18.5	81.5	......	1.10	......	......	......	......	......	......	......		
Same (composite of Nos. 8818-8820)	8930	......	1	3.3	16.5	73.2	7.0	.98	4.68	79.73	1.68	5.94	2.6	7,820	14,080	......	557
			2	......	17.0	75.8	7.2	1.01	4.47	82.43	1.74	3.12	......	8,085	14,560		
			3	......	18.0	82.0	......	1.09	4.82	88.85	1.88	3.36	......	8,715	15,690		
Midland, Ocean No. 8 mine, Upper Sewickley or Tyson bed (1,300 feet northwest of drift, break through in main heading, 2¾-foot cut).	6355	A	1	3.66	16.88	71.41	8.05	1.02	......	......	......	......	3.0	7,737	13,927	......	558
			2	......	17.52	74.12	8.36	1.06	......	......	......	......	......	8,031	14,455		
			3	......	19.12	80.88	......	1.16	......	......	......	......	......	8,763	15,773		
Same (500 feet northeast of drift, room 9, right heading 2, 32¼-inch cut).	6360	A	1	2.54	18.22	72.01	7.23	.92	......	......	......	......	1.9	7,935	14,283	......	558
			2	......	18.70	73.88	7.42	.94	......	......	......	......	......	8,142	14,656		
			3	......	20.20	79.80	......	1.02	......	......	......	......	......	8,794	15,829		
Same (1,000 feet northeast of drift, room 7, right heading 4, 33¾-inch cut).	6366	A	1	2.86	17.13	69.62	10.39	1.12	......	......	......	......	2.3	7,582	13,648	......	558
			2	......	17.63	71.67	10.70	1.15	......	......	......	......	......	7,804	14,049		
			3	......	19.74	80.26	......	1.29	......	......	......	......	......	8,740	15,732		
Same Pittsburgh bed (split between rooms 19 and 20, off Cullen's heading, 9-foot cut).	8778	A	1	3.1	15.5	74.5	6.9	.86	4.57	80.71	1.69	5.32	2.3	7,815	14,070	......	558
			2	......	16.0	76.9	7.1	.89	4.36	83.31	1.74	2.63	......	8,065	14,520		
			3	......	17.0	83.0	......	.96	4.69	89.65	1.87	2.83	......	8,680	15,630		
¾ mile from; Tyson No. 8 mine, Tyson bed (room 1, left entry 7, off drift 1, 29 inches).	8833	A	1	2.7	16.0	73.3	8.0	.95	......	......	......	......	1.9	......	......	......	559
			2	......	16.5	75.3	8.2	1.00	......	......	......	......	......	......	......		
			3	......	18.0	82.0	......	1.10	......	......	......	......	......	......	......		
Same (bore-hole heading off drift 2, 31½ inches).	8862	A	1	3.5	16.0	72.6	7.9	1.00	......	......	......	......	2.5	......	......	......	559
			2	......	16.5	75.3	8.2	1.05	......	......	......	......	......	......	......		
			3	......	18.0	82.0	......	1.15	......	......	......	......	......	......	......		
Same (composite of Nos. 8833 and 8862)	8931	A	1	2.9	16.5	72.7	7.9	1.04	4.58	79.67	1.49	5.33	2.2	7,805	14,050	......	559
			2	......	17.0	74.9	8.1	1.07	4.39	82.07	1.53	2.81	......	8,040	14,480		
			3	......	18.5	81.5	......	1.16	4.78	89.33	1.67	3.06	......	8,755	15,750		
1 mile from; Ocean No. 1 mine, "Big Vein" (rock heading, room 34, cut 8 feet 1½ inches).	8763	B	1	2.4	14.0	70.6	7.0	.90	......	......	......	......	1.6	......	......	......	559
			2	......	14.0	78.8	7.2	.90	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.95	......	......	......	......	......	......	......		
Same (right side of room 32, off Welsh's heading, 9½-foot cut).	8764	B	1	2.7	14.0	75.8	7.5	.85	......	......	......	......	1.7	......	......	......	559
			2	......	14.5	77.8	7.7	.85	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.95	......	......	......	......	......	......	......		

Same (lower dip heading, 8 feet 8½ inches)	8765	B	1	3.0	14.0	76.0	7.0	.85	......	......	......	......	2.0	......	......	......	559
			2	......	14.5	78.3	7.2	.90	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.95	......	......	......	......	......	......	......		
Same (right entry 10, off Welsh's straight heading, room 13, 9-foot 1-inch cut).	8766	B	1	2.5	15.0	75.4	7.1	.85	......	......	......	......	1.6	......	......	......	559
			2	......	15.0	77.7	7.3	.90	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	.95	......	......	......	......	......	......	......		
Same (right entry 11, off slope room 15, 9½-foot cut).	8767	B	1	2.4	15.0	74.8	7.8	1.10	......	......	......	......	1.6	......	......	......	559
			2	......	15.0	77.0	8.0	1.15	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	1.25	......	......	......	......	......	......	......		
Same (right entry 3, off slope, room 7, 9 feet 1 inch).	8768	B	1	2.7	14.0	74.4	8.9	1.00	......	......	......	......	.80	7,750	13,950	......	559
			2	......	14.5	76.4	9.1	1.05	......	......	......	......	......	7,960	14,330		
			3	......	16.0	84.0	......	1.15	......	......	......	......	......	8,755	15,760		
Same (composite of Nos. 8765–8768)	8835	......	1	2.8	14.0	75.5	7.7	.99	4.51	80.62	1.81	4.39	1.8	7,830	14,100	......	559
			2	......	14.5	77.6	7.9	1.02	4.32	82.94	1.86	1.96	......	8,055	14,500		
			3	......	15.5	84.5	......	1.11	4.69	90.06	2.02	2.12	......	8,750	15,750		
Same (composite of Nos. 8763 and 8764)	8836	......	1	2.7	14.5	75.5	7.3	.99	4.58	80.65	1.82	4.70	1.7	7,845	14,130	......	559
			2	......	14.5	78.0	7.5	1.02	4.40	82.92	1.87	2.33	......	8,070	14,520		
			3	......	16.0	84.0	......	1.10	4.75	89.62	2.02	2.51	......	8,720	15,690		
GARRETT COUNTY.																	
Westernport, 2 miles north of; Washington No. 3 mine[a] (1,600 feet west of drift mouth, room 2, right entry 6, 54½-inch cut).	2018	A	1	2.47	14.03	73.95	9.55	1.23	......	......	......	......	1.8	7,696	13,853	290	560
			2	......	14.38	75.83	9.79	1.26	......	......	......	......	......	7,891	14,204	336	
			3	......	15.94	84.06	......	1.40	......	......	......	......	......	8,746	15,743	28	
Same (1,700 feet southwest of drift mouth, room 3, left entry 8, 56½-inch cut).	2019	A	1	3.45	13.73	71.97	10.85	1.60	......	......	......	......	2.5	......	......	290	560
			2	......	14.22	74.54	11.24	1.66	......	......	......	......	......	......	......	336	
			3	......	16.02	83.98	......	1.87	......	......	......	......	......	......	......	28	
Same (run of mine)	2274	C	1	2.33	16.11	68.43	13.13	1.49	3.99	75.21	1.29	4.89	1.4	7,364	13,255	290	......
			2	......	16.49	70.07	13.44	1.53	3.82	77.01	1.32	2.88	......	7,540	13,572		
			3	......	19.06	80.94	......	1.76	4.41	88.97	1.53	3.33	......	8,711	15,680		
			4	......	......	......	......	......	4.49	90.56	1.55	3.40	......	8,826	15,887		
MICHIGAN.																	
SAGINAW COUNTY.																	
Saginaw, Barnard mine, Saginaw bed (4,000 feet east of shaft, room 15, northeast entry, 34-inch cut).	7705	A	1	11.91	31.50	49.75	6.84	1.24	5.84	66.56	1.19	18.33	7.9	6,545	11,781	6	561
			2	......	35.76	56.48	7.76	1.41	5.13	75.56	1.35	8.79	......	7,430	13,374		
			3	......	38.77	61.23	......	1.53	5.56	81.91	1.46	9.54	......	8,055	14,499		
Same (4,000 feet east of shaft, southeast entry, 3½-foot cut).	7706	A	1	11.55	31.65	53.55	3.25	.95	5.88	69.46	1.25	19.21	6.5	6,912	12,442	6	561
			2	......	35.78	60.55	3.67	1.07	5.20	78.53	1.41	10.12	......	7,815	14,067		
			3	......	37.14	62.86	......	1.11	5.40	81.52	1.46	10.51	......	8,113	14,603		
Same, Riverside mine (east entry off main south entry, 37-inch cut).	5282	A	1	13.79	29.34	49.86	7.01	1.18	......	......	......	......	7.8	......	......	......	562
			2	......	34.03	57.84	8.13	1.37	......	......	......	......	......	......	......		
			3	......	37.04	62.96	......	1.49	......	......	......	......	......	......	......		
St. Charles, Gage No. 1 mine, Saginaw bed (east entry 5, on north entry 4, south side, 43-inch cut).	5286	A	1	12.12	30.10	48.67	9.11	1.40	......	......	......	......	4.7	......	......	......	562
			2	......	34.25	55.38	10.37	1.59	......	......	......	......	......	......	......		
			3	......	38.21	61.79	......	1.77	......	......	......	......	......	......	......		

[a] Coal bed known locally as the "6-foot."

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
MISSOURI.																	
ADAIR COUNTY.																	
Kirksville, Rocky Ford No. 1 mine, Bevier bed, (room 3, north entry 1, 300 feet northwest of shaft, 47½-inch bed, 45-inch cut).	10101	A	1	14.85	32.50	39.73	12.92	3.56	......	......	......	......	11.1	......	......	......	562
			2	......	38.17	46.66	15.17	4.18	......	......	......	......	......	......	......		
			3	......	44.99	55.01	......	4.93	......	......	......	......	......	......	......		
Same (300 feet northeast of shaft, 47½-inch bed, 45-inch cut).	10102	A	1	14.79	32.68	38.01	14.52	3.85	......	......	......	......	11.0	......	......	......	562
			2	......	38.35	44.61	17.04	4.52	......	......	......	......	......	......	......		
			3	......	46.23	53.77	......	5.45	......	......	......	......	......	......	......		
Same (composite of Nos. 10101 and 10102)......	10106	......	1	14.59	32.05	39.45	13.91	3.69	5.56	56.12	.93	19.79	11.1	5,700	10,260	......	562
			2	......	37.52	46.19	16.29	4.32	4.61	65.71	1.09	7.98	......	6,674	12,013		
			3	......	44.82	55.18	......	5.16	5.51	78.50	1.30	9.53	......	7,973	14,351		
Star No. 1 mine, Bevier bed, 350 feet northwest of shaft (25-inch bed, 24-inch cut).	10100	A	1	13.76	33.00	39.73	13.51	5.53	......	......	......	......	8.9	......	......	......	562
			2	......	38.27	46.06	15.67	6.41	......	......	......	......	......	......	......		
			3	......	45.38	54.62	......	7.60	......	......	......	......	......	......	......		
Same (main entry, 250 feet east of shaft, 24-inch cut).	10099	A	1	14.68	32.36	39.99	12.97	4.99	......	......	......	......	10.7	......	......	......	562
			2	......	37.93	46.87	15.20	5.85	......	......	......	......	......	......	......		
			3	......	44.73	55.27	......	6.90	......	......	......	......	......	......	......		
Same (composite of Nos. 10099 and 10100)......	10442	......	1	14.40	32.29	40.17	13.14	5.29	5.56	56.43	1.00	18.58	9.8	5,721	10,298	......	562
			2	......	37.72	46.93	15.35	6.18	4.63	65.93	1.17	6.74	......	6,683	12,029		
			3	......	44.56	55.44	......	7.30	5.47	77.88	1.38	7.97	......	7,895	14,211		
Morrow Township, No. 1 mine, Lexington bed (2,000 feet north of drift mouth, 40-inch bed, 31-inch cut).	10079	A	1	16.11	36.07	38.79	9.03	3.14	......	......	......	......	10.1	......	......	......	563
			2	......	43.00	46.24	10.76	3.74	......	......	......	......	......	......	......		
			3	......	48.19	51.81	......	4.19	......	......	......	......	......	......	......		
Same (2,100 feet northwest of drift mouth, 45-inch bed, 36-inch cut).	10080	A	1	15.42	34.68	38.90	11.00	3.98	......	......	......	......	9.2	......	......	......	563
			2	......	41.00	45.99	13.01	4.71	......	......	......	......	......	......	......		
			3	......	47.13	52.87	......	5.41	......	......	......	......	......	......	......		
Same (2,000 feet northeast of drift mouth, 45-inch bed, 36-inch cut).	10077	A	1	15.59	34.75	35.96	13.70	3.82	......	......	......	......	9.3	......	......	......	563
			2	......	41.17	42.60	16.23	4.53	......	......	......	......	......	......	......		
			3	......	49.14	50.86	......	5.41	......	......	......	......	......	......	......		
Same (composite of Nos. 10077, 10079, and 10080).	10081	A	1	15.36	34.81	38.84	10.99	3.57	5.88	57.09	.95	21.52	9.5	5,811	10,460	......	563
			2	......	41.13	45.89	12.98	4.22	4.98	67.45	1.12	9.30	......	6,866	12,359		
			3	......	47.27	52.73	......	4.85	5.67	77.51	1.29	10.68	......	7,890	14,202		
Nineveh Township, No. 1 mine, Bevier bed (1,050 feet south of drift mouth, 46-inch cut).	10086	A	1	15.29	33.11	36.62	14.98	3.49	......	......	......	......	10.0	......	......	......	563
			2	......	39.09	43.23	17.68	4.12	......	......	......	......	......	......	......		
			3	......	47.49	52.51	......	4.98	......	......	......	......	......	......	......		

Same (2,500 feet west of drift mouth, 46-inch cut).	10085	A	1	17.42	30.70	41.44	10.44	3.46	......	......	......	......	13.4	......	......	......	564
			2	......	37.17	50.19	12.64	4.19	......	......	......	......	......	......	......		
			3	......	42.55	57.45	......	4.80	......	......	......	......	......	......	......		
Same (1,800 feet north of drift mouth, 49-inch cut).	10087	A	1	16.83	32.10	38.96	12.11	3.31	......	......	......	......	10.8	......	......	......	564
			2	......	38.60	46.84	14.56	3.98	......	......	......	......	......	......	......		
			3	......	45.18	54.82	......	4.66	......	......	......	......	......	......	......		
Same (composite of Nos. 10085-10087)..........	10088	A	1	16.07	32.13	39.15	12.65	3.31	5.70	55.76	1.00	21.58	11.4	5,686	10,235	......	564
			2	......	38.28	46.65	15.07	3.94	4.66	66.44	1.19	8.70	......	6,775	12,195		
			3	......	45.07	54.93	......	4.64	5.49	78.23	1.40	10.24	......	7,977	14,359		
Novinger, ½ mile northwest of; Rombauer No. 2 mine, Bevier bed (1,700 feet northeast of shaft, 3-foot 1-inch cut).	2823	A	1	17.19	34.05	39.48	9.28	2.76	......	......	......	......	14.6	5,888	10,598	332	564
			2	......	41.12	47.67	11.21	3.33	......	......	......	......	......	7,110	12,798	336	
			3	......	46.31	53.69	......	3.75	......	......	......	......	......	8,008	14,414	28	
Same (1,750 feet south of shaft, 2-foot 10-inch cut).	2824	A	1	16.19	31.25	39.87	12.69	3.03	......	......	......	......	13.7	......	......	332	564
			2	......	37.29	47.57	15.14	3.62	......	......	......	......	......	......	......	336	
			3	......	43.94	56.06	......	4.27	......	......	......	......	......	......	......	28	
Same (No. 1 nut)..............................	2936	C	1	16.36	29.12	35.01	19.51	3.53	5.23	49.44	.87	21.42	14.5	5,004	9,007	332	......
			2	......	34.82	41.85	23.33	4.22	4.08	59.11	1.04	8.22	......	5,983	10,769		
			3	......	45.42	54.58	......	5.50	5.32	77.09	1.36	10.73	......	7,803	14,045		
			4	......	......	......	......	......	5.63	81.58	1.44	11.35	......	8,126	14,627		
Same (No. 2 nut)..............................	2937	C	1	16.39	29.01	34.42	20.18	3.12	5.28	49.03	.91	21.48	9.7	4,970	8,946	332	......
			2	......	34.70	41.16	24.14	3.73	4.14	58.64	1.09	8.26	......	5,944	10,699		
			3	......	45.74	54.26	......	4.92	5.45	77.30	1.43	10.90	......	7,835	14,103		
			4	......	......	......	......	......	5.72	81.30	1.51	11.47	......	8,124	14,623		
Same (slack)..................................	2942	C	1	17.30	26.43	32.89	23.38	2.94	5.04	45.41	.83	22.40	15.2	4,578	8,240	332	......
			2	......	31.96	39.77	28.27	3.56	3.77	54.91	1.00	8.49	......	5,536	9,965		
			3	......	44.56	55.44	......	4.96	5.26	76.55	1.40	11.83	......	7,718	13,892		
			4	......	......	......	......	......	5.54	80.55	1.47	12.44	......	8,004	14,407		
2¼ miles north of, Rombauer No. 3 mine, Bevier bed (1,800 feet north of shaft, 38½-inch cut).	10082	A	1	16.57	33.72	39.54	10.17	2.69	......	......	......	......	10.6	......	......	......	565
			2	......	40.42	47.39	12.19	3.22	......	......	......	......	......	......	......		
			3	......	46.03	53.97	......	3.67	......	......	......	......	......	......	......		
Same..	10078	A	1	15.93	31.49	38.55	14.03	3.07	......	......	......	......	10.2	......	......	......	565
			2	......	37.46	45.85	16.69	3.65	......	......	......	......	......	......	......		
			3	......	44.96	55.04	......	4.38	......	......	......	......	......	......	......		
Same (1,300 feet west of shaft, 45-inch cut)......	10083	A	1	15.99	33.25	39.84	10.92	3.19	......	......	......	......	10.3	......	......	......	565
			2	......	39.58	47.42	13.00	3.80	......	......	......	......	......	......	......		
			3	......	45.49	54.51	......	4.37	......	......	......	......	......	......	......		
Same (composite of Nos. 10082, 10083, and 10078).	10089	A	1	15.73	33.46	38.92	11.89	3.02	5.69	57.72	.99	20.69	10.4	5,783	10,409	......	565
			2	......	39.71	46.18	14.11	3.58	4.68	68.50	1.17	7.96	......	6,863	12,353		
			3	......	46.23	53.77	......	4.17	5.45	79.77	1.36	9.25	......	7,991	14,384		
2¼ miles southwest of; Great Northern No. 21 mine, Bevier bed (south face, 1,500 feet from shaft, 44-inch cut).	10084	A	1	15.91	33.53	40.19	10.37	3.58	......	......	......	......	9.9	......	......	......	565
			2	......	39.87	47.80	12.33	4.26	......	......	......	......	......	......	......		
			3	......	45.48	54.52	......	4.86	......	......	......	......	......	......	......		
Same (west face, 1,200 feet from shaft, 46-inch cut).	10075	A	1	16.19	31.95	42.08	9.78	3.18	......	......	......	......	10.1	......	......	......	565
			2	......	38.12	50.21	11.67	3.79	......	......	......	......	......	......	......		
			3	......	43.15	56.85	......	4.29	......	......	......	......	......	......	......		
Same (800 feet east and 200 feet north of shaft; 44½-inch cut).	10076	A	1	14.71	33.64	41.49	10.16	3.80	......	......	......	......	8.5	......	......	......	565
			2	......	39.44	48.65	11.91	4.46	......	......	......	......	......	......	......		
			3	......	44.77	55.23	......	5.06	......	......	......	......	......	......	......		
Same (composite of Nos. 10075, 10076, and 10084).	10090	A	1	15.13	32.68	41.93	10.26	3.52	5.68	58.41	.98	21.15	9.5	5,951	10,712	......	565
			2	......	38.51	49.40	12.09	4.15	4.71	68.82	1.15	9.08	......	7,012	12,622		
			3	......	43.81	56.19	......	4.72	5.36	78.28	1.31	10.33	......	7,976	14,357		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
MISSOURI—Continued.																	
AUDRAIN COUNTY.																	
Vandalia, sec. 5, T. 52 N., R. 5 W.; Standard mine, Mulky bed, south wall, 1,000 feet from shaft, 2-foot 4½-inch cut.	9982	A	1	10.17	39.07	38.21	12.55	5.33	....	....	....	....	6.9	....	....	....	566
			2	....	43.49	42.54	13.97	5.93	....	....	....	....	....	....	....		
			3	....	50.55	49.45	....	6.89	....	....	....	....	....	....	....		
Same (west wall, 800 feet from shaft, 2-foot 4½-inch cut).	9983	A	1	10.62	39.15	37.14	13.09	4.39	....	....	....	....	7.8	....	....	....	566
			2	....	43.80	41.55	14.65	4.91	....	....	....	....	....	....	....		
			3	....	51.31	48.69	....	5.75	....	....	....	....	....	....	....		
Same (north face, 800 feet from shaft, 2-foot 4½-inch cut).	9984	A	1	10.72	38.90	39.30	11.08	4.80	....	....	....	....	7.5	....	....	....	566
			2	....	43.57	44.02	12.41	5.38	....	....	....	....	....	....	....		
			3	....	49.74	50.26	....	6.14	....	....	....	....	....	....	....		
Same (composite of Nos. 9982–9984)............	9993	A	1	10.36	39.28	38.03	12.33	4.89	5.49	61.13	.97	15.19	7.4	6,304	11,347	....	566
			2	....	43.82	42.42	13.76	5.46	4.84	68.20	1.08	6.66	....	7,033	12,659		
			3	....	50.81	49.19	....	6.33	5.61	79.08	1.25	7.73	....	8,155	14,679		
BATES COUNTY.																	
New Home, New Home No. 1 mine, east entry 1 (room 18, 52-inch cut).	1041	A	1	4.80	38.10	42.93	14.17	5.35	....	....	....	....	....	....	....	261	567
			2	....	40.02	45.10	14.88	5.62	....	....	....	....	....	....	....	48	
			3	....	47.02	52.98	....	6.60	....	....	....	....	....	....	....	22	
Same (bottom of slope, 5-foot 2-inch cut)......	1043	A	1	4.92	38.28	42.28	14.52	5.34	....	....	....	....	....	6,653	11,975	261	567
			2	....	40.26	44.47	15.27	5.62	....	....	....	....	....	6,998	12,596	48	
			3	....	47.51	52.49	....	6.63	....	....	....	....	....	8,258	14,864	22	
Same (run of mine)..........................	1126	C	1	8.33	33.58	38.73	19.36	5.25	4.97	57.00	.94	12.48	5.0	5,881	10,586	261	.....
			2	....	36.63	42.25	21.12	5.73	4.41	62.18	1.03	5.53	....	6,416	11,549	48	
			3	....	46.44	53.56	....	7.26	5.59	78.83	1.30	7.02	....	8,133	14,639		
			4	....	....	....	....	....	6.02	85.00	1.40	7.58	....	8,594	15,469		
CALDWELL COUNTY.																	
Hamilton, Gomer Township, Caldwell No. 1 mine, Bevier bed (southwest face, 1,200 feet from hoisting shaft, 18-inch cut).	10166	A	1	11.01	33.70	40.66	14.63	5.92	....	....	....	....	4.6	....	....	....	567
			2	....	37.87	45.69	16.44	6.65	....	....	....	....	....	....	....		
			3	....	45.32	54.68	....	7.96	....	....	....	....	....	....	....		
Same (south face, 1,500 feet from hoisting shaft, 18-inch cut).	10167	A	1	11.40	35.32	41.91	11.37	4.27	....	....	....	....	4.9	....	....	....	567
			2	....	39.87	47.30	12.83	4.82	....	....	....	....	....	....	....		
			3	....	45.74	54.26	....	5.53	....	....	....	....	....	....	....		

Same (south face, 1,300 feet from hoisting shaft, 18-inch cut).	10168	A	1	11.29	34.63	42.23	11.85	4.44					4.7				567
			2		39.04	47.60	13.36	5.01									
			3		45.06	54.94		5.78									
Same (composite of Nos. 10166–10168)	10172	A	1	10.99	35.00	41.37	12.64	4.81	5.43	60.40	1.16	15.56	4.7	6,163	11,093		567
			2		39.32	46.48	14.20	5.40	4.73	67.86	1.30	6.51		6,924	12,463		
			3		45.83	54.17		6.29	5.51	79.09	1.52	7.59		8,070	14,526		
CLAY COUNTY.																	
Missouri City, Missouri City No. 1 mine, Lexington bed (west face, 1,500 feet from shaft, 22-inch cut).	10221	A	1	14.42	33.49	40.04	12.05	2.97					11.1				568
			2		39.13	46.79	14.08	3.47									
			3		45.54	54.46		4.04									
Same (1,800 feet from shaft, 22-inch cut)	10220	A	1	14.24	33.99	39.38	12.39	2.89					10.5				568
			2		39.63	45.92	14.45	3.37									
			3		46.32	53.68		3.94									
Same (west face, 1,800 feet from shaft, 22-inch cut).	10219	A	1	14.68	32.79	39.65	12.88	3.10					11.8				568
			2		38.43	46.47	15.10	3.63									
			3		45.27	54.73		4.28									
Same (composite of Nos. 10219–10221)	10231	A	1	14.26	33.29	39.94	12.51	2.94	5.67	58.10	.99	19.79	11.1	5,809	10,456		568
			2		38.83	46.58	14.59	3.43	4.77	67.76	1.15	8.30		6,775	12,195		
			3		45.46	54.54		4.02	5.58	79.33	1.35	9.72		7,932	14,278		
GRUNDY COUNTY.																	
Trenton, ½ mile south of; Trenton No. 3 mine, Tebo (?) bed (west face, 500 feet from shaft bottom, 18-inch cut).	10153	A	1	13.36	37.47	37.72	11.45	2.98					5.4				568
			2		43.25	43.53	13.22	3.44									
			3		49.84	50.16		3.96									
Same (500 feet from hoisting shaft, 18-inch cut).	10151	A	1	12.58	40.13	39.43	7.86	2.82					4.6				568
			2		45.90	45.11	8.99	3.23									
			3		50.43	49.57		3.55									
Same (north face, 500 feet from hoisting shaft, 18-inch cut).	10152	A	1	11.56	37.31	35.46	15.67	3.67					4.8				568
			2		42.19	40.09	17.72	4.15									
			3		51.28	48.72		5.04									
Same (composite of Nos. 10151–10153)	10161	A	1	11.94	38.16	38.28	11.62	3.11	5.64	61.43	1.04	17.16	4.9	6,155	11,079		568
			2		43.33	43.47	13.20	3.53	4.89	69.76	1.18	7.44		6,990	12,582		
			3		49.92	50.08		4.07	5.63	80.37	1.36	8.57		8,053	14,495		
HENRY COUNTY.																	
Windsor, Bowen No. 4 mine, Bowen bed (east face, 800 feet from shaft, 60-inch cut).	10351	A	1	14.17	32.30	43.33	10.20	3.73					7.7				569
			2		37.63	50.49	11.88	4.35									
			3		42.70	57.30		4.94									
Same (600 feet northwest from shaft, 60-inch cut).	10350	A	1	13.99	33.16	42.97	9.88	3.65					8.1				569
			2		38.56	49.95	11.49	4.24									
			3		43.57	56.43		4.79									
Same (west face, 800 feet from shaft, 60-inch cut).	10349	A	1	12.70	31.51	41.67	14.12	4.57					6.0				569
			2		36.10	47.73	16.17	5.23									
			3		43.06	56.94		6.24									
Same (composite of Nos. 10349–10351)	10355	A	1	13.51	33.24	41.88	11.37	4.08	5.89	59.16	.85	18.65	7.5	5,988	10,779		569
			2		38.43	48.42	13.15	4.72	5.08	68.40	.98	7.67		6,923	12,461		
			3		44.25	55.75		5.43	5.85	78.76	1.13	8.83		7,971	14,348		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
MISSOURI—Continued.																	
JOHNSON COUNTY.																	
Sutherland, Bevier bed No. 1 mine, (east face, 160 feet from shaft, 19-inch cut).	10347	A	1	12.64	36.72	43.61	7.03	3.81	......	......	......	......	6.5	......	......	......	569
			2	......	42.03	49.92	8.05	4.36	......	......	......	......	......	......	......		
			3	......	45.71	54.29	......	4.74	......	......	......	......	......	......	......		
Same (west face, 2,000 feet from shaft, 20-inch cut).	10346	A	1	12.54	37.08	41.79	8.59	4.01	......	......	......	......	6.8	......	......	......	569
			2	......	42.38	47.80	9.82	4.59	......	......	......	......	......	......	......		
			3	......	47.00	53.00	......	5.09	......	......	......	......	......	......	......		
Same (north face, 200 feet from shaft)	10348	A	1	12.11	38.43	42.14	7.32	3.77	......	......	......	......	6.1	......	......	......	569
			2	......	43.73	47.95	8.32	4.29	......	......	......	......	......	......	......		
			3	......	47.70	52.30	......	4.68	......	......	......	......	......	......	......		
Same (composite of Nos. 10346-10348)	10354	A	1	12.53	37.75	41.94	7.78	3.88	5.93	63.07	1.06	18.28	6.5	6,375	11,475	......	569
			2	......	43.16	47.95	8.89	4.44	5.19	72.10	1.21	8.17	......	7,288	13,118		
			3	......	47.37	52.63	......	4.87	5.69	79.14	1.33	8.97	......	7,999	14,398		
LAFAYETTE COUNTY.																	
Corder, Black Diamond mine, Lexington bed (west face, 400 feet from shaft, 22-inch cut).	10345	A	1	12.18	33.23	43.20	11.39	4.47	......	......	......	......	7.6	......	......	......	570
			2	......	37.84	49.19	12.97	5.09	......	......	......	......	......	......	......		
			3	......	43.48	56.52	......	5.85	......	......	......	......	......	......	......		
Same (north face, 350 feet from shaft, 22-inch cut).	10344	A	1	12.71	33.54	42.42	11.33	4.51	......	......	......	......	7.9	......	......	......	570
			2	......	38.42	48.60	12.98	5.17	......	......	......	......	......	......	......		
			3	......	44.15	55.85	......	5.94	......	......	......	......	......	......	......		
Same (northwest face, 400 feet from shaft, 22-inch cut).	10343	A	1	12.48	32.96	43.13	11.43	4.50	......	......	......	......	7.7	......	......	......	570
			2	......	37.66	49.28	13.06	5.14	......	......	......	......	......	......	......		
			3	......	43.32	56.68	......	5.91	......	......	......	......	......	......	......		
Same (composite of Nos. 10343-10345)	10353	A	1	12.34	34.36	41.97	11.33	4.55	5.83	59.33	1.08	17.88	7.7	6,110	10,998	......	570
			2	......	39.20	47.87	12.93	5.19	5.09	67.68	1.23	7.88	......	6,970	12,546		
			3	......	45.02	54.98	......	5.96	5.85	77.73	1.41	9.05	......	8,005	14,409		
¾ mile southwest of; Wilson mine, Lexington bed (east face, 650 feet from shaft, 20-inch cut).	10242	A	1	15.48	33.02	40.80	10.70	2.96	......	......	......	......	7.7	......	......	......	570
			2	......	39.07	48.27	12.66	3.50	......	......	......	......	......	......	......		
			3	......	44.73	55.27	......	4.00	......	......	......	......	......	......	......		
Same (southeast face, 600 feet from shaft, 20-inch cut).	10243	A	1	13.65	34.76	39.50	12.09	3.82	......	......	......	......	6.8	......	......	......	570
			2	......	40.26	45.74	14.00	4.42	......	......	......	......	......	......	......		
			3	......	46.81	53.19	......	5.14	......	......	......	......	......	......	......		

Same (face, 600 feet south of shaft, 20-inch cut).	10244	A	1	13.48	33.90	41.29	11.33	3.38					6.4				570
			2		39.18	47.72	13.10	3.91									
			3		45.08	54.92		4.51									
Same (composite of Nos. 10242-10244)	10246	A	1	14.35	33.33	41.10	11.22	3.52	5.68	59.16	1.06	19.36	7.0	5,942	10,696		570
			2		38.91	47.99	13.10	4.11	4.78	69.07	1.24	7.70		6,937	12,487		
			3		44.77	55.23		4.73	5.50	79.48	1.43	8.86		7,982	14,368		
Higginsville, ½ mile south of; No. 1 mine, Lexington bed (southeast face, 2,000 feet from shaft, 18-inch cut).	10241	A	1	12.39	34.62	37.21	15.78	4.11					6.5				570
			2		39.52	42.47	18.01	4.69									
			3		48.20	51.80		5.72									
Same (southwest face, 2,000 feet from hoisting shaft, 16-inch cut).	10240	A	1	12.32	33.59	33.21	20.88	2.88					6.9				570
			2		38.31	37.88	23.81	3.28									
			3		50.28	49.72		4.30									
Same (west face, 1,400 feet from shaft, 18-inch cut).	10239	A	1	12.57	35.07	39.03	13.33	2.90					6.3				570
			2		40.11	44.64	15.25	3.32									
			3		47.33	52.67		3.92									
Same (composite of Nos. 10239-10241)	10245	A	1	12.41	34.14	36.77	16.68	2.92	5.55	56.63	.92	17.30	6.6	5,739	10,330		570
			2		38.98	41.98	19.04	3.33	4.76	64.65	1.06	7.16		6,552	11,794		
			3		48.15	51.85		4.11	5.88	79.86	1.30	8.85		8,093	14,568		
Lexington, Graddy mine, Lexington bed (5,000 feet southwest of drift mouth, 19-inch cut).	10225	A	1	14.45	33.12	39.73	12.70	3.69					11.1				571
			2		38.71	46.44	14.85	4.31									
			3		45.46	54.54		5.06									
Same (6,000 feet southeast of drift mouth, 20-inch cut).	10226	A	1	15.09	31.36	39.91	13.64	3.46					10.9				571
			2		36.92	47.02	16.06	4.07									
			3		43.98	56.02		4.83									
Same (5,000 feet east of drift mouth, 20-inch cut).	10227	A	1	14.23	33.41	40.28	12.08	2.86					10.2				571
			2		38.95	46.97	14.08	3.33									
			3		45.33	54.67		3.88									
Same (composite of Nos. 10225-10227)	10233	A	1	14.92	31.26	41.00	12.82	3.24	5.64	56.68	1.01	20.61	10.7	5,763	10,373		571
			2		36.74	48.19	15.07	3.81	4.68	66.62	1.19	8.63		6,774	12,193		
			3		43.26	56.74		4.49	5.51	78.44	1.40	10.16		7,976	14,357		
Summit mine, Lexington bed	1010	B	1	11.27	33.44	41.49	13.80	2.48									571
			2		37.69	46.76	15.55	2.79									
			3		44.63	55.37		3.30									
Same	1011	B	1	11.08	35.85	39.77	13.30	2.86						6,087	10,957		571
			2		40.32	44.72	14.96	3.22						6,845	12,321		
			3		47.41	52.59		3.79						8,099	14,578		
Napoleon, 1 mile east of; Independence mine, Lexington bed, 1,400 feet south of hoisting shaft, 18-inch cut).	10222	A	1	13.71	32.16	40.34	13.79	3.11					10.3				571
			2		37.27	46.75	15.98	3.60									
			3		44.36	55.64		4.28									
Same (1,400 feet from shaft, 18-inch cut)	10223	A	1	13.75	32.66	39.42	14.17	3.23					10.2				571
			2		37.87	45.70	16.43	3.74									
			3		45.32	54.68		4.48									
Same (1,200 feet from hoisting shaft, 18-inch cut).	10224	A	1	13.53	31.57	39.88	15.02	3.28					9.8				571
			2		36.51	46.12	17.37	3.79									
			3		44.18	55.82		4.59									
Same (composite of Nos. 10222-10224)	10232	A	1	13.44	32.00	40.27	14.29	3.08	5.62	55.83	.98	20.20	10.1	5,684	10,232		571
			2		36.97	46.52	16.51	3.56	4.77	64.50	1.13	9.53		6,566	11,819		
			3		44.28	55.72		4.26	5.71	77.25	1.35	11.43		7,864	14,156		
Waverly, Buckhorn mine, Waverly bed, (west entry 1 off main south entry, 700 feet from shaft, 46-inch cut).	10340	A	1	11.57	31.61	39.91	16.91	6.01					8.6				572
			2		35.74	45.14	19.12	6.80									
			3		44.19	55.81		8.41									

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
MISSOURI—Continued.																	
LAFAYETTE COUNTY—continued.																	
Waverly, Buckhorn mine—Continued.																	
Same (east entry 2 off main south entry, 600 feet from shaft, 46-inch cut).	10341	A	1	10.71	32.64	41.27	15.38	7.90	......	......	......	......	7.7	......	......	......	572
			2	......	36.55	46.23	17.22	8.85	......	......	......	......	......	......	......		
			3	......	44.15	55.85	......	10.69	......	......	......	......	......	......	......		
Same (main east entry, 1,000 feet from shaft, 49-inch cut).	10342	A	1	12.36	31.94	40.24	15.46	6.76	......	......	......	......	9.2	......	......	......	572
			2	......	36.44	45.92	17.64	7.72	......	......	......	......	......	......	......		
			3	......	44.25	55.75	......	9.37	......	......	......	......	......	......	......		
Same (composite of Nos. 10340-10342)	10352	A	1	11.40	32.96	39.86	15.78	6.89	5.28	56.43	.92	14.70	8.5	5,856	10,541	......	572
			2	......	37.20	44.99	17.81	7.77	4.53	63.69	1.04	5.16	......	6,610	11,898		
			3	......	45.26	54.74	......	9.45	5.51	77.49	1.27	6.28	......	8,042	14,476		
Wellington, 2½ miles west of; Labor Exchange Branch No. 305 mine, Lexington bed (southwest face 1,200 feet from shaft bottom, 19-inch cut).	10228	A	1	15.94	32.66	42.55	8.85	2.85	......	......	......	......	10.9	......	......	......	572
			2	......	38.85	50.62	10.53	3.39	......	......	......	......	......	......	......		
			3	......	43.42	56.58	......	3.79	......	......	......	......	......	......	......		
Same (1,100 feet south of shaft, 20-inch cut)	10229	A	1	15.08	32.20	42.86	9.86	3.73	......	......	......	......	9.2	......	......	......	572
			2	......	37.91	50.48	11.61	4.39	......	......	......	......	......	......	......		
			3	......	42.90	57.10	......	4.97	......	......	......	......	......	......	......		
Same (southeast face, 1,500 feet from shaft, 18-inch cut).	10230	A	1	14.27	33.58	41.46	10.69	2.37	......	......	......	......	9.9	......	......	......	572
			2	......	39.17	48.36	12.47	2.76	......	......	......	......	......	......	......		
			3	......	44.75	55.25	......	3.15	......	......	......	......	......	......	......		
Same (composite of Nos. 10228-10230)	10234	A	1	15.31	32.46	42.42	9.81	3.12	5.80	59.19	1.04	21.04	10.0	5,976	10,757	......	572
			2	......	38.33	50.09	11.58	3.68	4.84	69.89	1.23	8.78	......	7,056	12,700		
			3	......	43.35	56.65	......	4.16	5.47	79.05	1.39	9.93	......	7,980	14,364		
MACON COUNTY.																	
Bevier, 1 mile south of; No. 8 mine, Bevier bed (east entry 1, north side, 53-inch cut).	1226	A	1	14.74	38.53	38.95	7.78	3.79	......	......	......	......	6.2	6,214	11,185	18	573
			2	......	45.19	45.68	9.13	4.45	......	......	......	......	......	7,288	13,118	28	
			3	......	49.73	50.27	......	4.90	......	......	......	......	......	8,020	14,436	*48*	
Same (west entry 2, south side, 63-inch cut)	1227	A	1	12.90	36.54	39.90	10.66	3.83	......	......	......	......	5.0	......	......	18	573
			2	......	41.95	45.81	12.24	4.40	......	......	......	......	......	......	......	28	
			3	......	47.80	52.20	......	5.01	......	......	......	......	......	......	......	*48*	
Same (run of mine 32 tons)	1348	C	1	11.50	33.63	38.01	16.86	5.16	5.12	54.79	.96	17.11	2.6	5,655	10,179	261	......
			2	......	38.00	42.95	19.05	5.83	4.34	61.91	1.08	7.79	......	6,390	11,502	*48*	
			3	......	46.94	53.06	......	7.20	5.36	76.48	1.34	9.62	......	7,893	14,207		
			4	......	......	......	......	......	5.78	82.42	1.44	10.36	......	8,332	14,998		

1½ miles southeast of; No. 9 shaft, Bevier bed (east face, 2,200 feet from shaft, 49-inch cut).	9988	A	1	16.21	32.96	42.51	8.32	3.48	......	......	......	......	10.3	......	......	......	574
			2	......	39.34	50.73	9.93	4.15	......	......	......	......	......	......	......		
			3	......	43.68	56.32	......	4.61	......	......	......	......	......	......	......		
Same (south face, 1,700 feet from shaft, 36-inch cut).	9989	A	1	16.97	33.30	39.04	10.69	3.48	......	......	......	......	12.1	......	......	......	574
			2	......	40.11	47.01	12.88	4.19	......	......	......	......	......	......	......		
			3	......	46.04	53.96	......	4.81	......	......	......	......	......	......	......		
Same (1,300 north and 400 feet west of shaft, 55-inch cut).	9990	A	1	16.27	34.66	40.23	8.84	3.20	......	......	......	......	11.3	......	......	......	574
			2	......	41.39	48.05	10.56	3.82	......	......	......	......	......	......	......		
			3	......	46.28	53.72	......	4.27	......	......	......	......	......	......	......		
Same (composite of 9988–9990)	9991	A	1	16.25	33.38	40.97	9.40	3.41	5.75	58.25	1.05	22.14	11.2	5,903	10,625	......	574
			2	......	39.86	48.92	11.22	4.07	4.70	69.55	1.25	9.21	......	7,048	12,686		
			3	......	44.90	55.10	......	4.58	5.29	78.34	1.41	10.38	......	7,939	14,290		
2½ miles south of; Central No. 61 mine, Bevier bed (4,000 feet south of shaft, 49-inch cut).	4196	A	1	15.26	33.91	42.13	8.70	4.37	......	......	......	......	8.5	......	......	332	574
			2	......	40.01	49.72	10.27	5.16	......	......	......	......	......	......	......	28	
			3	......	44.59	55.41	......	5.75	......	......	......	......	......	......	......		
Same (2,500 feet west of shaft, 5-foot 7⅞-inch cut)	4197	A	1	15.41	32.76	40.22	11.61	3.78	......	......	......	......	8.8	5,879	10,582	332	574
			2	......	38.73	47.54	13.73	4.46	......	......	......	......	......	6,950	12,510	28	
			3	......	44.90	55.10	......	5.17	......	......	......	......	......	8,056	14,501		
Same (through ¾-inch screen)	4257	C	1	15.23	26.32	37.95	20.50	3.69	5.02	49.41	.84	20.54	13.7	5,055	9,099	332	......
			2	......	31.05	44.77	24.18	4.35	3.93	58.28	.99	8.27	......	5,963	10,733		
			3	......	40.95	59.05	......	5.74	5.18	76.88	1.31	10.89	......	7,865	14,157		
			4	......	......	......	......	......	5.50	81.56	1.39	11.55	......	8,207	14,773		
Same (east main entry, 3,500 feet from shaft, 44-inch cut).	10191	A	1	15.37	33.84	41.26	9.53	2.79	......	......	......	......	8.8	......	......	......	575
			2	......	39.99	48.75	11.26	3.30	......	......	......	......	......	......	......		
			3	......	45.05	54.95	......	3.72	......	......	......	......	......	......	......		
Same (east entry 10, off main north entry, 4,000 feet from shaft, 44-inch cut).	10192	A	1	14.04	35.16	42.00	8.80	2.73	......	......	......	......	8.9	......	......	......	575
			2	......	40.90	48.86	10.24	3.18	......	......	......	......	......	......	......		
			3	......	45.57	54.43	......	3.54	......	......	......	......	......	......	......		
Same (main south entry, 4,500 feet from shaft, 44-inch cut).	10193	A	1	12.99	35.26	41.04	10.71	4.35	......	......	......	......	8.3	......	......	......	575
			2	......	40.52	47.17	12.31	5.00	......	......	......	......	......	......	......		
			3	......	46.21	53.79	......	5.70	......	......	......	......	......	......	......		
Same (composite of 10191–10193)	10201	A	1	13.81	34.69	41.79	9.71	3.32	5.71	59.84	1.06	20.36	8.7	6,091	10,964	......	575
			2	......	40.25	48.48	11.27	3.85	4.85	69.43	1.23	9.37	......	7,067	12,721		
			3	......	45.36	54.64	......	4.34	5.47	78.25	1.39	10.55	......	7,967	14,341		
Macon, east edge of town, sec. 16, T. 57 N., R. 14 W., Home mine, Mulky bed (west face, 80 feet from shaft, 23-inch cut).	9985	A	1	12.03	40.60	39.03	8.34	3.60	......	......	......	......	7.9	......	......	......	576
			2	......	46.15	44.37	9.48	4.09	......	......	......	......	......	......	......		
			3	......	50.97	49.03	......	4.52	......	......	......	......	......	......	......		
Same (east face, 80 feet from shaft, 24½-inch cut)	9986	A	1	14.41	38.82	36.86	9.91	4.48	......	......	......	......	9.6	......	......	......	576
			2	......	45.36	43.06	11.58	5.23	......	......	......	......	......	......	......		
			3	......	51.30	48.70	......	5.92	......	......	......	......	......	......	......		
Same (composite of Nos. 9985 and 9986)	9992	A	1	13.00	40.06	37.82	9.12	4.02	5.76	61.59	1.03	18.48	8.8	6,241	11,234	......	576
			2	......	46.04	43.48	10.48	4.62	4.97	70.79	1.18	7.96	......	7,173	12,911		
			3	......	51.43	48.57	......	5.16	5.55	79.08	1.32	8.89	......	8,013	14,422		
MILLER COUNTY.																	
Barnett (Morgan County), 6 miles northeast of; about 11 miles southeast of Versailles, sec. 6, T. 42 N., R. 15 W., left side of prospect pit, pocket bed.	1446	A	1	13.34	37.72	42.03	6.91	5.06	......	......	......	......	7.4	6,447	11,605	261	576
			2	......	43.53	48.50	7.97	5.84	......	......	......	......	......	7,439	13,390	*48*	
			3	......	47.30	52.70	......	6.35	......	......	......	......	......	8,084	14,551	28	
Same	1447	A	1	10.57	41.11	42.17	6.15	5.00	......	......	......	......	6.0	......	......	261	576
			2	......	45.97	47.15	6.88	5.59	......	......	......	......	......	......	......	*48*	
			3	......	49.37	50.63	......	6.00	......	......	......	......	......	......	......	28	

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
MISSOURI—Continued.																	
MILLER COUNTY—continued.																	
Barnett, prospect pit—Continued.																	
Same (run of mine, 10 tons)	1516	C	1	12.67	41.45	41.06	4.83	5.12	6.18	66.87	0.69	16.31	7.7	6,937	12,487	261	......
			2	......	47.46	47.01	5.53	5.86	5.46	76.57	.79	5.79	......	7,944	14,299	*48*	
			3	......	50.24	49.76	......	6.21	5.78	81.05	.84	6.12	......	8,408	15,134		
			4	......	......	......	......	......	6.16	86.42	.89	6.53	......	8,816	15,869		
PUTNAM COUNTY.																	
Mendota, Mendota mine, Mendota (Mystic) bed, screenings through 1¼-inch bar screen, 7 tons.	1549	C	1	15.71	28.62	34.89	20.78	3.69	5.23	48.87	.82	20.61	10.8	4,911	8,840	261	......
			2	......	33.95	41.40	24.65	4.38	4.13	57.98	.97	7.89	......	5,826	10,487	*48*	
			3	......	45.07	54.93	......	5.81	5.48	76.96	1.29	10.47	......	7,732	13,918		
			4	......	......	......	......	......	5.82	81.70	1.37	11.11	......	8,071	14,528		
RANDOLPH COUNTY.																	
Higbee, No. 7 mine, Bevier, 46½-inch bed (3,400 feet northwest of shaft, 3½-foot cut).	2795	A	1	13.38	34.17	42.43	10.02	4.48	......	......	......	......	10.8	6,158	11,084	332	576
			2	......	39.45	48.98	11.57	5.17	......	......	......	......	......	7,109	12,796	336	
			3	......	44.61	55.39	......	5.85	......	......	......	......	......	8,039	14,470	28	
Same (5,000 feet north of shaft, 41½-inch cut)	2796	A	1	13.89	33.36	41.23	11.52	4.19	......	......	......	......	11.5	......	......	332	576
			2	......	38.74	47.88	13.38	4.87	......	......	......	......	......	......	......	336	
			3	......	44.73	55.27	......	5.62	......	......	......	......	......	......	......	28	
Same (run of mine)	2865	C	1	12.92	33.64	39.82	13.62	5.03	5.43	57.16	.90	17.86	11.4	5,860	10,548	332	......
			2	......	38.63	45.73	15.64	5.78	4.58	65.64	1.03	7.33	......	6,730	12,114		
			3	......	45.79	54.21	......	6.85	5.43	77.81	1.23	8.68	......	7,977	14,359		
			4	......	......	......	......	......	5.83	83.53	1.31	9.33	......	8,398	15,116		
Huntsville, 1 mile east of; No. 3 mine, Bevier, 4-foot bed (900 feet north of shaft, 44-inch cut).	2817	A	1	14.01	33.49	42.21	10.29	5.23	......	......	......	......	11.8	6,128	11,030	332	577
			2	......	38.95	49.08	11.97	6.08	......	......	......	......	......	7,126	12,827	336	
			3	......	44.25	55.75	......	6.91	......	......	......	......	......	8,095	14,571	28	
Same (4,000 feet southwest of shaft, 37½-inch cut).	2818	A	1	11.38	37.10	43.07	8.45	3.57	......	......	......	......	8.6	......	......	332	577
			2	......	41.86	48.61	9.53	4.03	......	......	......	......	......	......	......	336	
			3	......	46.27	53.73	......	4.45	......	......	......	......	......	......	......	28	
Same (lump, over 6-inch bar screen)	2904	C	1	13.80	34.29	40.17	11.74	5.60	5.48	58.09	.96	18.13	11.6	5,998	10,796	332	......
			2	......	39.78	46.60	13.62	6.50	4.58	67.38	1.11	6.81	......	6,958	12,524		
			3	......	46.05	53.95	......	7.52	5.30	78.01	1.29	7.88	......	8,055	14,499		
			4	......	......	......	......	......	5.74	84.36	1.39	8.51	......	8,528	15,350		

Ryder (Prairie Township), 4 miles east of Higbee, sec. 14, T. 52 N., R. 14 W., Jones No. 1 mine, Bevier bed (southwest face, 75 feet from hoisting shaft, 43½-inch bed, 42-inch cut).	10180	A	1	12.07	32.74	40.01	15.18	4.67	......	......	......	......	6.7	......	......	......	578
			2	......	37.24	45.50	17.26	5.31	......	......	......	......	......	......	......		
			3	......	45.01	54.99	......	6.42	......	......	......	......	......	......	......		
Same (main entry, 75 feet southwest of shaft bottom, 42-inch cut).	10181	A	1	12.07	32.72	40.48	14.73	4.90	......	......	......	......	6.7	......	......	......	578
			2	......	37.21	46.04	16.75	5.57	......	......	......	......	......	......	......		
			3	......	44.70	55.30	......	6.69	......	......	......	......	......	......	......		
Same (60 feet southwest of shaft bottom, 42-inch cut).	10182	A	1	11.73	34.34	41.55	12.38	4.16	......	......	......	......	6.4	......	......	......	578
			2	......	38.90	47.07	14.03	4.71	......	......	......	......	......	......	......		
			3	......	45.25	54.75	......	5.48	......	......	......	......	......	......	......		
Same (composite of Nos. 10180-10182)..........	10183	A	1	11.58	32.60	41.73	14.09	4.68	5.42	58.50	.96	16.35	6.6	6,041	10,874	......	578
			2	......	36.87	47.19	15.94	5.29	4.67	66.16	1.09	6.85	......	6,831	12,296		
			3	......	43.86	56.14	......	6.29	5.56	78.70	1.30	8.15	......	8,126	14,627		
RAY COUNTY.																	
Camden, No. 2 mine, Lexington bed (1,000 feet west of shaft, 19½-inch cut).	10206	A	1	16.14	31.98	41.52	10.36	2.94	......	......	......	......	12.1	......	......	......	578
			2	......	38.14	49.51	12.35	3.51	......	......	......	......	......	......	......		
			3	......	43.51	56.49	......	4.00	......	......	......	......	......	......	......		
Same (900 feet west of shaft, 19½-inch cut)......	10207	A	1	16.26	33.13	40.56	10.05	2.74	......	......	......	......	10.4	......	......	......	578
			2	......	39.56	48.44	12.00	3.27	......	......	......	......	......	......	......		
			3	......	44.96	55.04	......	3.72	......	......	......	......	......	......	......		
Same (1,200 feet west of shaft, 19½-inch cut)....	10208	A	1	16.01	33.27	40.89	9.83	2.88	......	......	......	......	9.9	......	......	......	578
			2	......	39.61	48.69	11.70	3.43	......	......	......	......	......	......	......		
			3	......	44.86	55.14	......	3.88	......	......	......	......	......	......	......		
Same (composite of Nos. 10206-10208)..........	10217	A	1	15.83	32.80	41.46	9.91	2.97	5.81	58.62	1.08	21.61	10.8	5,901	10,622	......	578
			2	......	38.97	49.26	11.77	3.53	4.81	69.65	1.28	8.96	......	7,011	12,620		
			3	......	44.17	55.83	......	4.00	5.45	78.94	1.45	10.16	......	7,946	14,303		
Richmond, sec. 23, T. 52 N., R. 27 W., No. 50 mine, Lexington bed (100 feet north of shaft, 28-inch cut).	10194	A	1	14.09	34.35	39.62	11.94	4.03	......	......	......	......	9.7	......	......	......	579
			2	......	39.98	46.12	13.90	4.69	......	......	......	......	......	......	......		
			3	......	46.43	53.57	......	5.45	......	......	......	......	......	......	......		
Same (100 feet north of shaft, 28-inch cut)......	10195	A	1	13.66	34.75	40.18	11.41	3.53	......	......	......	......	8.5	......	......	......	579
			2	......	40.24	46.54	13.22	4.09	......	......	......	......	......	......	......		
			3	......	46.37	53.63	......	4.71	......	......	......	......	......	......	......		
Same (125 feet east of shaft, 28-inch cut)........	10196	A	1	13.60	34.61	40.51	11.28	4.05	......	......	......	......	9.3	......	......	......	579
			2	......	40.06	46.88	13.06	4.69	......	......	......	......	......	......	......		
			3	......	46.08	53.92	......	5.39	......	......	......	......	......	......	......		
Same (composite of Nos. 10194-10196)..........	10200	A	1	13.56	34.29	40.66	11.49	3.77	5.65	58.16	1.04	19.89	9.2	5,984	10,771	......	580
			2	......	39.67	47.04	13.29	4.36	4.79	67.29	1.20	9.07	......	6,923	12,461		
			3	......	45.75	54.25	......	5.03	5.52	77.60	1.38	10.47	......	7,984	14,371		
3 miles southwest of; sec. 12, T. 51 N., R. 28 W., No. 2 mine, Lexington bed (800 feet north of shaft, 30-inch bed, 28-inch cut).	10197	A	1	14.86	32.79	40.35	12.00	3.45	......	......	......	......	10.2	......	......	......	580
			2	......	38.51	47.40	14.09	4.04	......	......	......	......	......	......	......		
			3	......	44.83	55.17	......	4.71	......	......	......	......	......	......	......		
Same (800 feet northwest of shaft, 28-inch cut)..	10198	A	1	14.64	31.68	40.84	12.84	3.48	......	......	......	......	10.8	......	......	......	580
			2	......	37.11	47.85	15.04	4.08	......	......	......	......	......	......	......		
			3	......	43.68	56.32	......	4.80	......	......	......	......	......	......	......		
Same (east face, 400 feet from shaft bottom, 30-inch bed, 28-inch cut).	10199	A	1	14.07	31.79	38.33	15.81	4.61	......	......	......	......	10.3	......	......	......	580
			2	......	36.99	44.61	18.40	5.36	......	......	......	......	......	......	......		
			3	......	45.33	54.67	......	6.57	......	......	......	......	......	......	......		
Same (composite of Nos. 10197-10199)........	10235	A	1	14.58	31.30	40.48	13.64	3.76	5.62	56.03	.99	19.96	10.4	5,683	10,229	......	580
			2	......	36.64	47.39	15.97	4.40	4.68	65.59	1.16	8.20	......	6,653	11,975		
			3	......	43.61	56.39	......	5.24	5.57	78.06	1.38	9.75	......	7,918	14,252		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
MISSOURI—Continued.																	
SULLIVAN COUNTY.																	
Milan (Polk Township), ½ mile west of; No. 1 mine, Bevier bed (500 feet southeast of shaft, 38-inch cut).	10125	A	1	13.71	32.95	39.54	13.80	5.55	......	......	......	......	7.3	......	......	......	580
			2	......	38.19	45.82	15.99	6.43	......	......	......	......	......	......	......		
			3	......	45.46	54.54	......	7.65	......	......	......	......	......	......	......		
Same (600 feet south of hoisting shaft, 38-inch cut).	10126	A	1	13.53	31.51	35.09	19.87	6.28	......	......	......	......	9.4	......	......	......	580
			2	......	36.44	40.58	22.98	7.26	......	......	......	......	......	......	......		
			3	......	47.31	52.69	......	9.43	......	......	......	......	......	......	......		
Same (composite of Nos. 10125 and 10126)......	10143	A	1	13.11	32.24	37.53	17.12	5.93	5.40	53.38	.92	17.25	8.4	5,498	9,896	......	580
			2	......	37.11	43.19	19.70	6.82	4.53	61.44	1.06	6.45	......	6,328	11,389		
			3	......	46.21	53.79	......	8.49	5.64	76.51	1.32	8.04	......	7,880	14,182		
MONTANA.																	
BROADWATER COUNTY.																	
Lombard, sec. 12, T. 4 N., R. 2 E......................	3665	B	1	3.22	20.05	39.79	36.94	7.12	3.23	46.95	.47	5.29	2.4	4,815	8,667	......	580
			2	......	20.72	41.11	38.17	7.36	2.97	48.51	.49	2.50	......	4,975	8,955		
			3	......	33.51	66.49	......	11.90	4.80	78.46	.77	4.07	......	8,046	14,384		
			4	......	......	......	......	......	5.44	89.06	.89	4.61	......	8,830	15,894		
1 mile west of; Hegg mine (300 feet north of slope, cut 8 feet 6¼ inches).	563D	A	1	2.78	24.53	42.95	29.74	8.23	......	......	......	......	2.3	5,590	10,062	......	580
			2	......	25.23	44.18	30.59	8.46	......	......	......	......	......	5,750	10,350		
			3	......	36.35	63.65	......	12.19	......	......	......	......	......	8,283	14,909		
Same (400 feet northeast of opening, rib on east entry 1, entire thickness of bed not exposed, estimated 9 to 30 feet, 78¾-inch cut).	564D	A	1	3.67	25.74	52.01	18.58	6.98	......	......	......	......	3.1	......	......	......	580
			2	......	26.72	53.99	19.29	7.25	......	......	......	......	......	......	......		
			3	......	33.10	66.90	......	8.98	......	......	......	......	......	......	......		
Same (car sample, run of mine)...............	662D	C	1	3.04	19.69	39.50	37.77	7.69	3.16	44.16	.49	6.73	1.6	4,508	8,105	......	......
			2	......	20.31	40.72	38.97	7.98	2.91	45.54	.49	4.16	......	4,643	8,357		
			3	......	33.28	66.72	......	12.99	4.77	74.61	.81	6.82	......	7,608	13,693		
CARBON COUNTY.																	
Bear Creek, NE. ¼ sec. 6, T. 8 S., R. 21 E., new mine, 400 feet from mouth at face of entry, bed No. 3.	3619	B	1	10.46	35.27	45.03	9.24	1.84	......	......	......	......	2.0	......	......	......	581
			2	......	39.39	50.29	10.32	2.05	......	......	......	......	......	......	......		
			3	......	43.92	56.08	......	2.29	......	......	......	......	......	......	......		
1 mile northwest of; sec. 6, T. 8 S., R. 21 E., International mine, 200 feet from entrance, No. 5 bed, 47½-inch cut.	5819	B	1	9.31	34.14	45.87	10.68	1.99	5.24	59.54	1.34	21.21	3.4	5,818	10,472	341	581
			2	......	37.64	50.54	11.78	2.19	4.64	65.65	1.48	14.26	......	6,415	11,547		
			3	......	42.66	57.83	......	2.48	5.26	74.41	1.68	16.17	......	7,271	13,088		

1 mile south of; Foster Gulch mine, No. 3 bed, 72-inch cut.	4007	B	1	8.97	36.11	43.18	11.74	3.02	....	....	....	....	2.1	....	....	316	582
			2	....	39.67	47.43	12.90	3.32	....	....	....	....	....	....	....	341	
			3	....	45.55	54.45	....	3.81	....	....	....	....	....	....	....		
1 mile west of; NW. ¼ sec. 6, T. 8 S., R. 21 E., No. 2 bed, 96-inch cut.	3620	B	1	10.05	37.22	46.71	6.02	1.44	5.41	59.64	1.40	26.09	2.0	6,219	11,194	316	582
			2	....	41.38	51.93	6.69	1.60	4.77	66.30	1.56	19.08	....	6,914	12,445	341	
			3	....	44.35	55.65	....	1.72	5.11	71.06	1.67	20.44	....	7,410	13,338		
			4	....	....	....	....	....	5.20	72.30	1.70	20.80	....	7,500	13,500		
1½ miles west of; Bear Creek mine, sec. 6, T. 8 S., R. 21 E. (No. 2 bed, breast of main heading, 63-inch cut).	5820	B	1	9.67	35.92	46.39	8.02	1.64	5.52	61.66	1.48	21.68	4.1	6,018	10,832	341	583
			2	....	39.77	51.35	8.88	1.82	4.93	68.26	1.64	14.47	....	6,662	11,992		
			3	....	43.65	56.35	....	2.00	5.41	74.92	1.80	15.87	....	7,312	13,162		
Same (No. 3 bed, 200 feet in mine, 73-inch cut).	5822	B	1	8.60	34.52	43.57	13.31	2.78	5.05	56.94	1.43	20.49	2.5	5,657	10,183	341	583
			2	....	37.87	47.57	14.56	3.04	4.47	62.30	1.57	14.06	....	6,189	11,140		
			3	....	44.32	55.68	....	3.56	5.23	72.92	1.84	16.45	....	7,244	13,039		
Same (No. 4 bed, 100 feet in mine, 45-inch cut).	5823	B	1	9.80	34.74	47.19	8.27	2.17	5.20	60.20	1.42	22.74	3.3	6,046	10,883	341	583
			2	....	38.51	52.32	9.17	2.41	4.56	66.74	1.57	15.55	....	6,703	12,065		
			3	....	42.40	57.60	....	2.65	5.02	73.48	1.73	17.12	....	7,380	13,284		
2 miles west of; Washoe No. 1 mine, sec. 1, T. 8 S., R. 20 E., No. 1 bed, 5½-foot cut.	5821	B	1	8.74	34.99	45.72	10.55	2.93	5.49	59.59	1.24	20.20	2.5	5,891	10,604	341	584
			2	....	38.34	50.10	11.56	3.21	4.95	65.30	1.36	13.62	....	6,455	11,619		
			3	....	43.35	56.65	....	3.63	5.60	73.83	1.54	15.40	....	7,299	13,138		
3½ miles south of; on Taggart Gulch, SE. ¼ sec. 20, T. 8 S., R. 21 E., Nelson mine, No. 2 bed, 63-inch cut.	4008	B	1	9.60	36.88	47.10	6.42	2.35	....	....	....	....	2.6	....	....	316	584
			2	....	40.80	52.10	7.10	2.60	....	....	....	....	....	....	....	341	
			3	....	43.92	56.08	....	2.80	....	....	....	....	....	....	....		
Bridger, 1¼ miles northwest of; Bridger mine, SW. ¼ SW. ¼ sec. 17, T. 6 S., R. 23 E., Bridger mine, Bridger bed (600 feet in mine, 53-inch cut).	3956	A	1	8.70	34.03	49.07	8.20	.63	....	....	....	....	3.1	....	....	316	585
			2	....	37.27	53.75	8.98	.69	....	....	....	....	....	....	....	332	
			3	....	40.95	59.05	....	.76	....	....	....	....	....	....	....	341	
Same (northern part of mine, poor coal, excluded).	3955	A	1	8.47	31.47	41.88	18.18	.84	....	....	....	....	3.2	....	....	316	585
			2	....	34.38	45.76	19.86	.92	....	....	....	....	....	....	....	18	
			3	....	42.90	57.10	....	1.15	....	....	....	....	....	....	....	28	
Same (5,000 feet in mine, 42-inch cut).........	5495	B	1	14.83	26.93	44.89	13.35	.33	5.61	57.05	.91	22.75	8.8	5,576	10,037	341	585
			2	....	31.62	52.71	15.67	.39	4.65	66.98	1.07	11.24	....	6,547	11,785		
			3	....	37.49	62.51	....	.46	5.51	79.42	1.27	13.34	....	7,763	13,973		
Same (run of mine).........................	4271	C	1	8.56	32.36	45.69	13.39	.54	5.06	60.39	1.06	19.56	3.1	5,936	10,685	332	......
			2	....	35.39	49.97	14.64	.59	4.49	66.04	1.16	13.08	....	6,492	11,686		
			3	....	41.46	58.54	....	.69	5.27	77.37	1.36	15.31	....	7,605	13,689		
			4	....	....	....	....	....	5.30	77.91	1.37	15.42	....	7,642	13,756		
Same	3684	B	1	9.58	34.27	46.39	9.76	.45	....	....	....	....	3.7	....	....	......	585
			2	....	37.90	51.31	10.79	.50	....	....	....	....	....	....	....		
			3	....	42.48	57.52	....	.56	....	....	....	....	....	....	....		
Coalville, 1 mile west of; NW. ¼ sec. 18, T. 5 S., R. 23 E., Gebo No. 2 mine, Bridger bed, 1,000 feet in mine, 49-inch cut.	5508	B	1	9.76	27.66	46.16	16.42	.63	5.09	56.19	1.01	20.66	3.7	5,686	10,235	341	586
			2	....	30.65	51.15	18.20	.70	4.44	62.27	1.12	13.27	....	6,301	11,342		
			3	....	37.47	62.53	....	.86	5.43	76.13	1.37	16.21	....	7,703	13,865		
Dean, about 5 miles northwest of; SE. ¼ NW. ¼ sec. 28, T. 4 S., R. 16 E., Albertson mine (face of entry).	6314	B	1	7.01	30.07	44.19	18.73	.49	....	....	....	....	2.2	5,627	10,129	......	586
			2	....	32.34	47.52	20.14	.53	....	....	....	....	....	6,051	10,892		
			3	....	40.50	59.50	....	.66	....	....	....	....	....	7,577	13,639		
Fromberg, 1 mile west of; McCarthy No. 2 mine, Bridger (lignite) bed, 58-inch cut.	3954	A	1	8.93	33.43	46.92	10.72	.61	....	....	....	....	3.6	....	....	316	586
			2	....	36.71	51.52	11.77	.67	....	....	....	....	....	....	....	332	
			3	....	41.61	58.39	....	.76	....	....	....	....	....	....	....	341	
Same (run of mine).........................	4234	C	1	8.51	31.58	44.52	15.39	.60	4.96	58.96	1.10	18.99	3.3	5,821	10,478	332	......
			2	....	34.52	48.66	16.82	.66	4.38	64.44	1.20	12.50	....	6,362	11,452	18	
			3	....	41.50	58.50	....	.79	5.27	77.48	1.45	15.01	....	7,649	13,768	28	
			4	....	....	....	....	....	5.31	78.09	1.46	15.14	....	7,691	13,844		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
MONTANA—Continued.																	
CARBON COUNTY—continued.																	
Joliet, 2½ miles southeast of; Joliet mine, Bridger bed	3683	A	1	8.81	30.61	43.84	16.74	.65					4.0				587
			2		33.57	48.07	18.36	.71									
			3		41.12	58.88		.87									
Red Lodge, sec. 27, T. 7 S., R. 20 E., Northwestern Improvement mine, east side of Rock Creek (No. 1 bed).	3590	B	1	11.69	36.14	40.19	11.98	1.05	5.26	55.46	1.20	25.05	4.7	5,437	9,787	316	587
			2		40.92	45.51	13.57	1.19	4.48	62.80	1.36	16.60		6,157	11,083	341	
			3		47.35	52.65		1.38	5.19	72.66	1.57	19.20		7,123	12,821		
			4						5.26	73.67	1.59	19.48		7,192	12,946		
Same (No. 1½ bed, room 31, 1,600 feet from main entrance, 250 feet north of tramway).	3592	B	1	14.07	33.46	42.51	9.96	2.05					5.6			316	587
			2		38.94	49.47	11.59	2.39								341	
			3		44.05	55.95		2.70									
Same (No. 2 bed, 1,600 feet from main entry)	3588	B	1	11.26	34.08	43.26	11.40	1.14					4.0			316	587
			2		38.40	48.75	12.85	1.28								341	
			3		44.06	55.94		1.47									
Same (No. 4 bed, 350 feet west of drift 5, west level 2).	3595	B	1	11.33	34.22	44.04	10.41	1.59					4.4			316	587
			2		38.59	49.67	11.74	1.79								341	
			3		43.72	56.28		2.03									
Same (No. 4 bed, east room 97, 350 feet north, level 5).	3591	B	1	11.22	36.43	45.38	6.97	.83					4.0			316	587
			2		41.03	51.12	7.85	.93								341	
			3		45.53	55.47		1.01									
Same (No. 5 bed, room 9, west level 4)	3593	B	1	10.38	35.98	40.62	13.02	1.89					4.2			316	587
			2		40.15	45.32	14.53	2.11								341	
			3		46.98	53.02		2.47									
Same (No. 6 bed, room 9, west level 4)	3594	B	1	10.55	36.39	43.02	10.04	2.23					3.9			316	587
			2		40.68	48.10	11.22	2.49								341	
			3		45.82	54.18		2.80									
Same (washed slack, 21 tons)	1298	C	1	11.05	35.90	42.08	10.97	1.73	5.37	59.08	1.33	21.52	2.2	5,855	10,539	261	
			2		40.36	47.31	12.33	1.94	4.65	66.42	1.50	13.16		6,582	11,848	48	
			3		46.03	53.97		2.22	5.31	75.76	1.71	15.00		7,508	13,514		
			4						5.43	77.48	1.74	15.35		7,628	13,730		
CASCADE COUNTY.																	
Armington, east side of Belt Creek, Belt Creek bed, NE. ¼ sec. 36, T. 19 N., R. 6 E., Richardson mine, 46½-inch cut.	3515	B	1	3.51	26.39	50.60	19.50	3.74	4.13	61.51	.68	10.44	1.6	6,045	10,881	316	588
			2		27.35	52.44	20.21	3.88	3.88	63.75	.70	7.58		6,265	11,277	356	
			3		34.28	65.72		4.86	4.86	79.90	.88	9.50		7,852	14,134		
			4						5.11	83.97	.93	9.99		8,138	14,648		

West side of Belt Creek, SE. ¼ SW. ¼ sec. 36, T. 19 N., R. 6 E., Hill mine,[a] 75 feet from mouth, 38-inch cut.	3755	B	1	9.58	23.24	52.24	14.94	2.00	4.28	58.74	.67	19.37	5.0	5,518	9,932	316	589
			2		25.70	57.78	16.52	2.21	3.56	64.97	.74	12.00		6,103	10,985	356	
			3		30.79	69.21		2.65	4.27	77.82	.89	14.37		7,311	13,160		
			4						4.38	79.94	.91	14.77		7,448	13,406		
Belt, east side of Belt Creek, SE. ¼ NE. ¼ sec. 26, T. 19 N., R. 6 E., Millard mine,[a] 64-inch cut.	3513	B	1	4.62	30.51	46.14	18.73	3.59					2.1			316	589
			2		31.99	48.37	19.64	3.76								356	
			3		39.81	60.19		4.68									
West side of Belt Creek, SE. ¼ NW. ¼ sec. 26, T. 19 N., R. 6 E., Anaconda mine[a] (entry 18, 58-inch cut.)	3512	B	1	7.05	25.47	49.34	18.14	1.67	4.36	58.10	.64	17.09	2.6	5,623	10,121	316	590
			2		27.40	53.08	19.52	1.80	3.85	62.50	.69	11.64		6,049	10,888	356	
			3		34.05	65.95		2.23	4.79	77.66	.86	14.46		7,516	13,529		
			4						4.89	79.44	.88	14.79		7,636	13,745		
Same (south entry 9, 53-inch cut)	3514	B	1	6.37	27.55	45.20	20.88	2.04	3.92	56.14	.73	16.29	2.7	5,481	9,866	316	591
			2		29.42	48.28	22.30	2.18	3.43	59.96	.78	11.35		5,854	10,537	356	
			3		37.87	62.13		2.80	4.43	77.17	1.00	14.60		7,534	13,561		
			4						4.55	79.39	1.03	15.03		7,686	13,834		
1½ miles north of; east side of Belt Creek, NE. ¼ sec. 23, T. 19 N., R. 6 E., Orr mine,[a] main entry, 500 feet from mouth, 49-inch cut.	3754	B	1	10.88	20.27	41.97	26.88	1.79	3.72	47.37	.52	19.72	5.4	4,301	7,742	316	591
			2		22.74	47.10	30.16	2.01	2.82	53.15	.58	11.28		4,826	8,687	356	
			3		32.56	67.44		2.88	4.03	76.11	.84	16.14		6,910	12,438		
			4						4.15	78.36	.86	16.63		7,049	12,688		
Eden, 2 miles northeast of; north side of Ming Coulee, Belt Creek bed, NW. ¼ SE. ¼ sec. 32 T. 18 N., R. 4 E., Bickett mine, 85-inch cut.	4118	B	1	4.82	27.17	46.13	21.88	2.84	4.36	56.98	.72	13.22	1.9	5,578	10,040	316	591
			2		28.54	48.47	22.99	2.98	4.01	59.86	.76	9.40		5,860	10,548	356	
			3		37.07	62.93		3.87	5.21	77.74	.98	12.20		7,610	13,698		
6 miles southwest of; east side of Smith River, NW. ¼ NW. ¼ sec. 20, T. 17 N., R. 3 E., Patterson mine,[a] 55-inch cut.	4117	B	1	6.17	27.03	52.03	14.77	4.36	4.43	61.62	.93	13.89	2.2	6,077	10,939	316	591
			2		28.81	55.45	15.74	4.65	3.99	65.67	.99	8.96		7,215	12,987	356	
			3		34.19	65.81		5.51	4.73	77.94	1.18	10.64		7,687	13,837		
			4						5.02	82.49	1.24	11.25		8,004	14,407		
8 miles southwest of; west side of Hound Creek, SW. ¼ SE. ¼ sec. 24, T. 17 N., R. 2 E., Carville mine,[a] 60-inch cut.	4114	B	1	4.54	27.44	47.95	20.07	4.09	4.23	58.66	.87	12.08	1.7	5,818	10,472	316	591
			2		28.75	50.22	21.03	4.28	3.91	61.45	.91	8.42		6,095	10,971	356	
			3		36.40	63.60		5.42	4.95	77.81	1.15	10.67		7,717	13,891		
			4						5.23	82.27	1.22	11.28		8,031	14,456		
Geyser, about 7 miles southwest of; on west side of Otter Creek, Belt Creek bed, NW. ¼ sec. 29, T. 17 N., R. 9 E., Nollar mine, 175 feet from mouth, 4-foot cut.	3759	B	1	8.76	25.72	50.36	15.16	3.91	4.40	58.93	.79	16.81	4.8	5,626	10,127	316	592
			2		28.19	55.19	16.62	4.29	3.76	64.59	.87	9.87		6,166	11,099	356	
			3		33.81	66.19		5.14	4.51	77.46	1.04	11.85		7,395	13,311		
About 7½ miles southwest of; SW. ¼ NW. ¼ sec. 3, T. 16 N., R. 9 E., Meredeth mine, 50 feet from mouth, 43-inch cut.	3758	B	1	10.18	24.82	45.25	19.75	3.01					4.6			316	593
			2		27.63	50.38	21.99	3.35								356	
			3		35.42	64.58		4.29									
Sand Coulee, 1 mile south of; west side of Straight Coulee, tributary to Sand Coulee NE. ¼ sec. 23, T. 19 N., R. 4 E., Gerber mine.[a]	4119	B	1	7.49	27.29	51.44	13.78	2.32	4.68	62.21	.88	16.13	2.6	6,115	11,007	316	593
			2		29.50	55.60	14.90	2.51	4.16	67.25	.95	10.23		6,610	11,898	356	
			3		34.66	65.34		2.95	4.89	79.02	1.12	12.02		7,767	13,981		
Spion Kop, near; 1½ miles east of Reinsford, mouth of Williams Creek, south side, SE. ¼ NW. ¼ sec. 3, T. 17 N., R. 8 E., Larson mine,[a] weathered, 30-inch cut.	3757	B	1	13.07	21.79	43.26	21.88	1.30	4.23	49.95	.69	21.95	6.0	4,639	8,350	316	594
			2		25.07	49.76	25.17	1.50	3.20	57.46	.79	11.88		5,336	9,605	356	
			3		33.50	66.50		2.00	4.27	76.79	1.06	15.88		7,132	12,838		
Stockett, NW. ¼ NW. ¼ sec. 36, T. 19 N., R. 4 E., Cottonwood mine,[a] 88-inch cut.	4115	B	1	6.01	28.43	51.42	14.14	2.38	4.46	63.61	.91	14.50	2.4	6,196	11,153	316	594
			2		30.25	54.71	15.04	2.53	4.03	67.67	.97	9.76		6,592	11,866	356	
			3		35.60	64.40		2.98	4.75	79.66	1.14	11.47		7,759	13,966		

[a] Belt Creek bed.

Table of chemical analyses—Continued.

	Sample.			Proximate.				Ultimate.						Calorific value.		Reference.	
Locality, bed, etc.	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Air-drying loss.	Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
MONTANA—Continued.																	
CHOUTEAU COUNTY.																	
Ada, 2½ miles southeast of; NE. ¼ SE. ¼ sec. 5, T. 30 N., R. 18 E., Gibbitts (Tiger Ridge) mine, 60 feet south of opening, 28-inch cut.	8622	B	1	16.83	27.89	43.78	11.50	1.19	5.58	54.37	1.14	26.22	8.8	5,313	9,563	381	595
			2	....	33.53	52.64	13.83	1.43	4.46	65.38	1.37	13.53	....	6,389	11,500		
			3	....	38.90	61.10	....	1.66	5.17	75.86	1.59	15.72	....	7,413	13,343		
Big Sandy, 6 miles east of; Mackton mine, NW. ¼ SW. ¼ sec. 18, T. 28 N., R. 14 E., Big Vein bed, 155 feet from mouth, 8 feet 1½ inch cut.	6550	B	1	12.07	34.71	41.68	11.54	.80	5.30	55.85	0.71	25.80	5.5	5,332	9,598	381	595
			2	....	39.48	47.40	13.12	.91	4.50	63.52	.81	17.14	....	6,064	10,915		
			3	....	45.44	54.56	....	1.05	5.18	73.11	.93	19.73	....	6,980	12,564		
6½ miles east of; Mack mine, NE. ¼ SE. ¼ sec. 18, T. 28 N., R. 14 E., 20 feet north and 200 feet off main entry west, 4½-foot cut.	6609	B	1	14.86	34.58	44.20	6.36	.46	5.41	58.56	.85	28.36	5.6	5,521	9,938	381	596
			2	....	40.61	51.92	7.47	.54	4.42	68.78	1.00	17.79	....	6,485	11,673		
			3	....	43.89	56.11	....	.58	4.78	74.33	1.08	19.23	....	7,008	12,614		
Chinook, 4 miles west of; Sands & O'Keef mine, NW. ¼ NW. ¼ sec. 18, T. 33 N., R. 19 E., 250 feet from entry, 77-inch bed, 61-inch cut.	6316	B	1	22.89	28.76	39.32	9.03	.56	....	....	....	....	12.0	4,685	8,433	381	596
			2	....	37.30	50.99	11.71	.73	....	....	....	....	....	6,076	10,936		
			3	....	42.25	57.75	....	.83	....	....	....	....	....	6,882	12,386		
6 miles northwest of; sec. 29, T. 34 N., R. 19 E., outcrop, Leabos mine, 4-foot cut.	7156	B	1	23.60	26.71	37.23	12.46	.55	5.56	45.62	.98	34.83	14.2	4,263	7,673	381	597
			2	....	34.96	48.73	16.31	.72	3.85	59.71	1.28	18.13	....	5,580	10,044		
			3	....	41.77	58.23	....	.86	4.60	71.35	1.53	21.66	....	6,668	12,002		
7 miles south of; NW. ¼ SW. ¼ sec. 30, T. 32 N., R. 20 E., Kerr mine, 240 feet in, 3½-foot bed, 35-inch cut.	6317	B	1	20.48	28.81	39.27	11.44	.81	....	....	....	....	10.3	....	....	381	597
			2	....	36.23	49.38	14.39	1.02	....	....	....	....	....	....	....		
			3	....	42.32	57.68	....	1.19	....	....	....	....	....	....	....		
9 miles south of; SW. ¼ NW. ¼ sec. 5, T. 31 N., R. 19 E., Roder mine, 125 feet in, 55-inch bed, 38-inch cut.	6319	B	1	23.11	26.62	40.50	9.77	.56	....	....	....	....	12.1	4,762	8,572	381	598
			2	....	34.62	52.67	12.71	.73	....	....	....	....	....	6,193	11,147		
			3	....	39.66	60.34	....	.84	....	....	....	....	....	7,095	12,771		
Same (150 feet in mine), 63-inch bed, 51½-inch cut.	*9150	B	1	21.41	28.00	41.60	8.99	.58	5.84	51.96	1.22	31.41	14.7	4,965	8,937	381	598
			2	....	35.63	52.93	11.44	.74	4.40	66.11	1.55	15.76	....	6,317	11,371		
			3	....	40.23	59.77	....	.84	4.97	74.65	1.75	17.79	....	7,133	12,839		
About 6 miles southwest of; Tumbler prospect, about 250 feet from mouth, 64-inch bed, 59½-inch cut.	6318	B	1	21.44	26.59	41.14	10.83	.64	5.73	50.43	1.09	31.28	11.8	4,808	8,654	381	599
			2	....	33.85	52.36	13.79	.81	4.26	64.19	1.39	15.56	....	6,120	11,016		
			3	....	39.26	60.74	....	.94	4.94	74.45	1.61	18.06	....	7,098	12,776		
About 4 miles northeast of; Matheson prospect, about 65 feet from mouth, 59-inch bed, 48-inch cut.	6380	B	1	23.27	29.87	33.12	13.74	.72	5.80	44.90	.89	33.95	14.9	4,332	7,798	381	599
			2	....	38.93	43.16	17.91	.94	4.18	58.52	1.16	17.29	....	5,646	10,163		
			3	....	47.42	52.58	....	1.15	5.09	71.29	1.41	21.06	....	6,878	12,380		
About 6¾ miles north of; Leabo prospect, about 45 feet from mouth, 60-inch bed, 40-inch cut.	6381	B	1	26.67	26.41	40.02	6.90	.68	6.09	49.23	.91	36.19	18.5	4,690	8,442	381	600
			2	....	36.02	54.57	9.41	.93	4.27	67.13	1.24	17.02	....	6,396	11,518		
			3	....	39.76	60.24	....	1.03	4.71	74.10	1.37	18.79	....	7,061	12,710		

Harlem 10 miles northwest of; McDaniels mine, 175 feet in, 30½-inch bed, 25-inch cut.	6315	B	1	30.00	40.10	18.00	11.90	1.08	5.53	40.39	.80	40.30	19.3	3,841	6,914	381	600
			2	......	57.29	25.71	17.00	1.54	3.14	57.70	1.14	19.48	......	5,487	9,877		
			3	......	69.02	30.98	......	1.86	3.78	69.52	1.37	23.47	......	6,611	11,900		
Havre, 1½ miles north of; Alcott mine, 120 feet in, 57½-inch bed, 37½-inch cut.	6474	B	1	24.12	26.58	38.97	10.33	.69	......	......	......	......	16.0	4,540	8,172	381	601
			2	......	35.03	51.36	13.61	.91	......	......	......	......	......	5,983	10,769		
			3	......	40.55	59.45	......	1.05	......	......	......	......	......	6,925	12,465		
Same (100 feet from entrance).................	6801	B	1	24.67	27.90	35.37	12.06	.88	5.80	46.00	.85	34.41	18.0	4,408	7,934	......	601
			2	......	37.04	46.95	16.01	1.17	4.06	61.07	1.13	16.56	......	5,852	10,534		
			3	......	44.10	55.90	......	1.39	4.83	72.71	1.35	19.72	......	6,967	12,541		
1½ miles northwest of; Havre mine, 565 feet in, 69-inch bed, 30-inch cut.	6479	B	1	21.96	23.80	43.90	10.34	.60	5.67	47.98	.99	34.42	15.5	4,563	8,213	381	601
			2	......	30.50	56.25	13.25	.77	4.14	61.48	1.27	19.09	......	5,847	10,525		
			3	......	35.16	64.84	......	.89	4.77	70.88	1.46	22.00	......	6,741	12,134		
3½ miles northwest of; Kinney mine, end of main entry, 31-inch bed, 2½-foot cut.	6475	B	1	21.07	30.00	38.12	10.81	.75	......	......	......	......	14.1	4,676	8,417	381	602
			2	......	38.01	48.29	13.70	.95	......	......	......	......	......	5,924	10,663		
			3	......	44.04	55.96	......	1.10	......	......	......	......	......	6,864	12,355		
4 miles southwest of; Electric mine, 125 feet from entry mouth, 4¾-foot bed, 3½-foot cut.	6473	B	1	22.84	29.31	34.61	13.24	.80	......	......	......	......	16.3	4,388	7,898	381	602
			2	......	37.99	44.85	17.16	1.04	......	......	......	......	......	5,687	10,237		
			3	......	45.86	54.14	......	1.26	......	......	......	......	......	6,865	12,357		
4 miles southeast of; SW. ¼ SW. ¼ sec. 36, T. 32 N., R. 16 E., on Bull Hook Creek, prospect, 7-inch bed.	6476	B	1	8.41	17.41	65.55	8.63	1.14	......	......	......	......	4.7	6,205	11,169	......	603
			2	......	19.01	71.57	9.42	1.24	......	......	......	......	......	6,775	12,195		
			3	......	20.99	79.01	......	1.37	......	......	......	......	......	7,480	13,464		
7 miles east of; Brown mine (abandoned), 65 feet in, 64-inch bed, 59-inch cut.	6477	B	1	18.97	27.05	35.43	18.55	1.48	......	......	......	......	13.6	4,153	7,475	381	603
			2	......	33.38	43.73	22.89	1.83	......	......	......	......	......	5,125	9,225		
			3	......	43.29	56.71	......	2.37	......	......	......	......	......	6,646	11,963		
7 miles northwest of; Barrott's mine, 250 feet in, 4-foot bed, 3½-foot cut.	6548	B	1	21.51	29.28	35.55	13.66	.73	......	......	......	......	12.2	4,363	7,853	381	603
			2	......	37.30	45.30	17.40	.93	......	......	......	......	......	5,558	10,004		
			3	......	45.16	54.84	......	1.13	......	......	......	......	......	6,729	12,112		
8 miles southeast of; NE. ¼ sec. 4, T. 31 N., R. 17 E., Staton's mine, 250 feet in, 69½-inch bed, 59½-inch cut.	6478	B	1	29.19	26.67	37.40.	6.74	.67	6.39	46.04	.94	39.22	22.9	4,353	7,835	381	604
			2	......	37.66	52.82	9.52	.95	4.45	65.02	1.33	18.73	......	6,147	11,065		
			3	......	41.62	58.38	......	1.05	4.92	71.86	1.47	20.70	......	6,794	12,229		
8½ miles southeast of; SE. ¼ NE. ¼ sec. 5, T. 31 N., R. 17 E., Clack mine, room on east side main entry, 205 feet S. 15° W., 62-inch bed, 50-inch cut.	6640	B	1	25.59	27.96	39.18	7.27	.58	6.19	49.08	1.03	35.85	14.2	4,607	8,293	381	604
			2	......	37.58	52.65	9.77	.78	4.50	65.96	1.38	17.61	......	6,191	11,144		
			3	......	41.65	58.35	......	.86	4.99	73.10	1.53	19.52	......	6,861	12,350		
12 miles northwest of; Schean prospect, 75 feet from mouth of entry, 57-inch bed, 3½-foot cut.	6549	B	1	21.24	31.44	36.44	10.88	.87	......	......	......	......	12.9	4,580	8,244	381	605
			2	......	39.92	46.27	13.81	1.10	......	......	......	......	......	5,815	10,467		
			3	......	46.32	53.68	......	1.28	......	......	......	......	......	6,747	12,145		
CUSTER COUNTY.																	
Fallon, bank of Yellowstone River, T. 13 N., R. 52 E., Gifford mine, from outcrop, 4¾-foot cut (sample wet with rain).	2426	B	1	33.53	25.82	29.37	11.28	.68	......	......	......	......	25.6	......	......	316	606
			2	......	38 84	44.19	16.97	1.02	......	......	......	......	......	......	......		
			3	......	46.78	53.22	......	1.23	......	......	......	......	......	......	......		
West bank of Yellowstone River, at mouth of Cottonwood Creek, 6½-foot cut, in outcrop (fresh).	2429	B	1	28.47	28.63	35.32	7.58	.69	......	......	......	......	20.3	......	......	316	606
			2	......	40.02	49.38	10.60	.96	......	......	......	......	......	......	......		
			3	......	44.77	55.23	......	1.08	......	......	......	......	......	......	......		
Miles, 1 mile north of; sec. 22, T. 8 N., R. 47 E., 150 feet from entrance, Kircher bed (46¾-inch cut).	5783	B	1	29.21	26.15	35.45	9.19	.75	......	......	......	......	15.4	4,260	7,668	341	606
			2	......	36.94	50.08	12.98	1.06	......	......	......	......	......	6,018	10,832		
			3	......	42.45	57.55	......	1.22	......	......	......	......	......	6,916	12,449		
5 miles northeast of; SE. ¼ sec. 19, T. 8 N., R. 48 E., Kircher mine, Kircher bed (5-foot cut).	5964	B	1	29.60	27.40	32.97	10.03	.68	......	......	......	......	18.1	4,156	7,481	341	607
			2	......	38.92	46.83	14.25	.97	......	......	......	......	......	5,903	10,625		
			3	......	45.39	54.61	......	1.13	......	......	......	......	......	6,884	12,391		
Same (Leonard sample, 1905, 200 feet from entrance).	2425	B	1	30.25	30.48	31.34	7.93	.60	......	......	......	......	21.9	......	......	316 341	607
			2	......	43.70	44.93	11.37	.86	......	......	......	......	......	......	......		
			3	......	49.30	50.70	......	.92	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
MONTANA—Continued.																	
CUSTER COUNTY—continued.																	
Miles—Continued.																	
5 miles southeast of; SE. ¼ sec. 6, T. 7 N., R. 48 E., Weaver (old) mine, near Signal Butte, Weaver bed (59-inch cut).	3701	B	1	29.13	25.33	30.51	15.03	0.55	5.60	40.09	0.54	38.19	16.5	3,701	6,662	316	607
			2	......	35.74	43.05	21.21	.78	3.33	56.57	.76	17.35	......	5,222	9,400	341	
			3	......	45.36	54.64	......	.98	4.23	71.79	.97	22.03	......	6,628	11,930		
6 miles south of; on military reservation, near Tongue River, sec. 25, T. 7 N., R. 47 E., Weaver mine, 100 feet from shaft, Kircher bed.	5780	B	1	29.52	27.96	33.84	8.68	.70	......	......	......	......	14.0	4,286	7,715	341	608
			2	......	39.67	48.01	12.32	.99	......	......	......	......	......	6,081	10,946		
			3	......	45.24	54.76	......	1.13	......	......	......	......	......	6,935	12,483		
19 miles east of; sec. 3, T. 7 N., R. 50 E., Dominy bed, outcrop (5-foot cut).	5962	B	1	35.51	26.75	28.87	8.87	.40	......	......	......	......	22.9	3,535	6,363	341	608
			2	......	41.48	44.78	13.74	.62	......	......	......	......	......	5,481	9,866		
			3	......	48.09	51.91	......	.72	......	......	......	......	......	6,354	11,437		
25 miles east of; on left bank of Powder River, sec. 2, T. 7 N., R. 51 E., Smith mine, Kircher bed (3½-foot cut).	5963	B	1	31.75	25.49	33.31	9.45	.70	......	......	......	......	20.0	4,078	7,341	341	609
			2	......	37.35	48.80	13.85	1.03	......	......	......	......	......	5,975	10,755		
			3	......	43.36	56.64	......	1.20	......	......	......	......	......	6,936	12,485		
30 miles northwest of; near northwest corner of county, at head of Youall Creek, sec. 20, T. 12 N., R. 45 E., Roberts prospect, cut from upper part of outcrop, lower part covered (4-foot cut).	3782	B	1	31.29	26.57	35.24	6.90	.46	......	......	......	......	14.8	......	......	316	609
			2	......	38.67	51.29	10.04	.67	......	......	......	......	......	......	......		
			3	......	42.98	57.02	......	.74	......	......	......	......	......	......	......		
35 miles northwest of; near northwest corner of county, at head of Crow Rock Creek, T. 12 N., R. 45 E., selected pieces from outcrop.	3783	B	1	35.16	26.08	35.70	3.06	.31	......	......	......	......	22.3	......	......	316	609
			2	......	40.22	55.06	4.72	.48	......	......	......	......	......	......	......		
			3	......	42.21	57.79	......	.50	......	......	......	......	......	......	......		
DAWSON COUNTY.																	
Glendive, 8 miles north of; NW. ¼ sec. 27, T. 17 N., R. 55 E., Snyder mine (240 feet from entrance, 6½-foot cut).	2423	B	1	34.94	26.99	32.46	5.61	.74	......	......	......	......	27.4	......	......	316	610
			2	......	41.48	49.90	8.62	1.14	......	......	......	......	......	......	......	285	
			3	......	45.40	54.60	......	1.24	......	......	......	......	......	......	......		
Same (whole bed, 6½-foot cut)	3812	B	1	34.55	35.34	22.91	7.20	1.10	6.60	42.40	.57	42.13	15.5	3,939	7,090	316	610
			2	......	54.00	35.00	11.00	1.68	4.22	64.78	.86	17.46	......	6,018	10,833		
			3	......	60.67	39.33	......	1.89	4.74	72.79	.98	19.60	......	6,762	12,172		
Same (drift entrance, 6½-foot cut, weathered)	3815	B	1	33.65	29.63	29.82	6.90	.81	6.10	40.35	.61	45.23	13.5	3,718	6,692	......	610
			2	......	44.66	44.94	10.40	1.22	3.56	60.82	.92	23.08	......	5,604	10,087		
			3	......	49.84	50 16	......	1.36	3.97	67.87	1.03	25.77	......	6,254	11,257		
Same (head of drift, south of entrance, coal 6½ feet thick).	3816	B	1	34.89	43.48	13.56	8.07	1.33	6.41	41.66	.56	41.97	14.2	3,880	6,984	316	610
			2	......	66.78	20.83	12.39	2.04	3.89	63.99	.86	16.83	......	5,959	10,726		

			3	......	76.23	23.77	......	2.33	4.43	73.04	.98	19.22	......	6,802	12,243		
Same (100 feet from entrance)................	3817	B	1	31.26	42.42	19.52	6.80	.80	5.99	43.93	.55	41.93	12.0	4,076	7,337	......	610
			2	......	61.71	28.40	9.89	1.16	3.67	63.91	.80	20.57	......	5,930	10,674		
			3	......	68.49	31.51	......	1.29	4.07	70.92	.89	22.83	......	6,581	11,846		
Same (main entry, 200 feet from mine mouth).	3819	B	1	33.06	30.30	28.31	8.33	1.03	......	......	......	......	11.1	......	......	......	610
			2	......	45.27	42.29	12.44	1.54	......	......	......	......	......	......	......		
			3	......	51.70	48.30	......	1.76	......	......	......	......	......	......	......		
Same (main entry, 25 feet from mine mouth).	3820	B	1	33.06	39.82	20.86	6.26	.68	......	......	......	......	9.1	4,319	7,774	......	610
			2	......	59.49	31.16	9.35	1.02	......	......	......	......	......	6,452	11,614		
			3	......	65.62	34.38	......	1.12	......	......	......	......	......	7,118	12,812		
12 miles southwest of; on Clear Creek, sec. 10, T. 14 N., R. 54 E., weathered sample from surface outcrop of 4½-foot bed, 4-foot cut.	2424	B	1	26.84	32.14	34.19	6.83	.31	......	......	......	......	17.5	......	......	316	610
			2	......	43.93	46.73	9.34	.42	......	......	......	......	......	......	......		
			3	......	48.45	51.55	......	.47	......	......	......	......	......	......	......		
Jordan, on Big Dry Creek, 91 miles northwest of Miles, 43-inch cut in 75-inch outcrop.	3842	B	1	31.33	24.57	30.77	13.33	.37	......	......	......	......	20.3	......	......	316	611
			2	......	35.78	44.81	19.41	.54	......	......	......	......	......	......	......		
			3	......	44.40	55.60	......	.67	......	......	......	......	......	......	......		
FERGUS COUNTY.																	
Buffalo, 7½ miles southwest of; (4 miles east of Greene), NE. ¼ NE. ¼ sec. 20, T. 12 N., R. 14 E., Williams mine, 165 feet from entrance, 2½-foot cut.	5265	B	1	14.44	28.80	45.65	11.11	4.08	......	......	......	......	7.3	......	......	341	611
			2	......	33.66	53.35	12.99	4.77	......	......	......	......	......	......	......	390	
			3	......	38.69	61.31	......	5.48	......	......	......	......	......	......	......		
8 miles southwest of; NW. ¼ NW. ¼ sec. 28, T. 12 N., R. 14 E., Saager Canyon mine, 85 feet from entrance, 4-foot cut.	5267	B	1	17.03	27.34	43.83	11.80	4.14	4.98	51.73	.62	26.73	9.0	4,941	8,894	341	611
			2	......	32.95	52.83	14.22	4.99	3.72	62.35	.75	13.97	......	5,955	10,719	390	
			3	......	38.41	61.59	......	5.82	4.34	72.67	.87	16.30	......	6,942	12,496		
Forest Grove, 1¼ miles west of; SW. ¼ SE. ¼ sec. 1, T. 14 N., R. 20 E., Hobson mine, 140 feet in, 41-inch cut.	5295	B	1	11.35	29.74	46.56	12.35	4.48	5.02	58.91	.82	18.42	3.1	5,841	10,514	341	612
			2	......	33.55	52.52	13.93	5.05	4.24	66.45	.92	9.41	......	6,589	11,860	390	
			3	......	38.98	61.02	......	5.87	4.93	77.20	1.07	10.93	......	7,655	13,779		
4 miles northwest of; SE. ¼ NW. ¼ sec. 35, T. 15 N., R. 20 E., Ben Hill mine, 140 feet in, 28-inch cut.	5294	B	1	18.56	24.59	48.36	8.49	3.72	......	......	......	......	9.6	5,505	9,909	341	612
			2	......	30.19	59.39	10.42	4.57	......	......	......	......	......	6,760	12,168	390	
			3	......	33.70	66.30	......	5.10	......	......	......	......	......	7,546	13,583		
Giltedge, 2 miles southwest of; sec. 33, T. 16 N., R. 20 E., Sherman mine, 300 feet in, 39-inch cut.	5473	B	1	15.65	27.05	49.67	7.63	1.82	5.13	56.70	.70	28.02	9.7	5,303	9,545	341	613
			2	......	32.07	58.88	9.05	2.15	4.01	67.22	.84	16.73	......	6,287	11,317	390	
			3	......	35.26	64.74	......	2.36	4.41	73.91	.92	18.40	......	6,913	12,443		
2½ miles southeast of; SE. ¼ SE. ¼ sec. 33, T. 16 N., R. 20 E., Shipley mine, 100 feet in, 19-inch cut.	5474	B	1	7.39	26.31	55.46	10.84	2.58	......	......	......	......	2.8	6,035	10,863	341	613
			2	......	28.41	59.89	11.70	2.79	......	......	......	......	......	6,517	11,731	390	
			3	......	32.17	67.83	......	3.16	......	......	......	......	......	7,381	13,286		
3½ miles southeast of; NE. ¼ NW. ¼ sec. 3, T. 15 N., R. 20 E., Cliffe mine, 700 feet in, 33-inch cut.	5476	B	1	7.98	26.63	56.05	9.34	4.39	4.86	64.85	.76	15.80	3.4	6,394	11,509	341	614
			2	......	28.94	60.91	10.15	4.77	4.31	70.47	.83	9.47	......	6,948	12,506	390	
			3	......	32.21	67.79	......	5.31	4.80	78.43	.92	10.54	......	7,733	13,919		
4 miles south of; NW. ¼ NE. ¼ sec. 9, T. 15 N., R. 20 E., Gold Reef mine, 35-inch cut.	5471	B	1	8.34	29.87	53.63	8.16	4.13	5.10	66.23	.76	15.62	3.7	6,540	11,772	341	614
			2	......	32.59	58.51	8.90	4.51	4.55	72.26	.83	8.95	......	7,135	12,843	390	
			3	......	35.77	64.23	......	4.95	4.99	79.32	.91	9.83	......	7,832	14,098		
Lewistown, 2 miles southeast of; NW. ¼ NW. ¼ sec. 26, T. 15 N., R. 18 E., Spring Creek mine, 58-inch bed, 3-foot cut.	5272	B	1	15.35	28.27	48.08	8.30	4.53	5.42	61.15	.71	19.89	8.2	5,897	10,615	341	614
			2	......	33.40	56.79	9.81	5.35	4.38	72.24	.84	7.38	......	6,966	12,539	390	
			3	......	37.03	62.92	......	5.93	4.86	80.10	.93	8.18	......	7,724	13,903		
4½ miles northeast of; NE. ¼ SW. ¼ sec. 32, T. 16 N., R. 19 E., Brew & Parson mine, 300 feet in, 68-inch cut.	5291	B	1	12.59	26.71	43.46	17.24	3.51	4.84	54.83	.76	18.82	5.3	5,220	9,396	341	615
			2	......	30.56	49.72	19.72	4.02	3.94	62.73	.87	8.72	......	5,972	10,750	390	
			3	......	38.07	61.93	......	5.01	4.91	78.14	1.08	10.86	......	7,439	13,390		
Same (90 feet in mine, 33-inch cut)............	5293	B	1	12.31	28.41	51.31	7.97	3.88	......	......	......	......	6.4	6,194	11,149	341	615
			2	......	32.40	58.51	9.09	4.42	......	......	......	......	......	7,064	12,715	390	
			3	......	35.64	64.36	......	4.86	......	......	......	......	......	7,770	13,986		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
MONTANA—Continued.																	
FERGUS COUNTY—continued.																	
Lewistown—Continued.																	
8 miles east of; center of sec. 24, T. 15 N., R. 19 E., Hamilton mine, 450 feet in, 4½-foot cut.	5296	B	1	12.66	29.62	48.81	8.91	3.68	......	......	......	......	6.0	6,061	10,910	390	616
			2	......	33.91	55.89	10.20	4.21	......	......	......	......	......	6,940	12,492		
			3	......	37.76	62.24	......	4.69	......	......	......	......	......	7,728	13,910		
8½ miles southwest of; NW. ¼ NW. ¼ sec. 25, T. 15 N., R. 19 E., Black Diamond mine, 400 feet in, 4½-foot cut.	5292	B	1	14.13	27.37	48.43	10.07	3.69	5.06	59.87	.74	20.57	7.0	5,794	10,429	341	616
			2	......	31.87	56.40	11.73	4.30	4.06	69.72	.86	9.33	......	6,747	12,145	390	
			3	......	36.11	63.89	......	4.87	4.60	78.99	.97	10.57	......	7,644	13,759		
9 miles east of; NE. ¼ SW. ¼ sec. 18, T. 15 N., R. 20 E., Flaherty mine, 170 feet in, 46-inch cut.	5343	B	1	9.84	28.70	42.14	19.32	4.63	......	......	......	......	3.5	5,283	9,509	341	617
			2	......	31.83	46.74	21.43	5.14	......	......	......	......	......	5,860	10,548	390	
			3	......	40.51	59.49	......	6.54	......	......	......	......	......	7,459	13,426		
9 miles northeast of; NE. ¼ SE. ¼ sec. 7, T. 16 N., R. 19 E., Nevin mine, 600 feet in, 30-inch cut.	5475	B	1	6.89	28.61	42.65	21.85	5.48	......	......	......	......	2.8	5,229	9,412	341	617
			2	......	30.73	45.80	23.47	5.89	......	......	......	......	......	5,616	10,109	390	
			3	......	40.15	59.85	......	7.70	......	......	......	......	......	7,338	13,208		
9 miles southeast of; SW. ¼ NE. ¼ sec. 6, T. 14 N., R. 20 E., Peiper mine, 315 feet in, 34-inch cut.	5289	B	1	18.88	25.18	48.34	7.60	2.72	5.19	57.31	.66	26.52	6.4	5,417	9,751	341	617
			2	......	31.04	59.59	9.37	3.35	3.81	70.65	.81	12.01	......	6,678	12,020	390	
			3	......	34.25	65.75	......	3.70	4.20	77.96	.89	13.25	......	7,369	13,264		
Maiden, 5 miles northwest of; SW. ¼ NW. ¼ sec. 32, T. 17 N., R. 19 E., on Warm Spring Creek, Mace mine, 500 feet in, 43-inch cut.	5472	B	1	2.84	27.35	54.29	15.52	4.87	......	......	......	......	1.6	6,512	11,722	341	618
			2	......	28.15	55.88	15.97	5.01	......	......	......	......	......	6,702	12,064	390	
			3	......	33.50	66.50	......	5.96	......	......	......	......	......	7,976	14,357		
Moore, 10 miles southeast of; on Rock Creek, SW. ¼ SE. ¼ sec. 3, T. 13 N., R. 17 E., Knox mine, 250 feet in, 29-inch cut.	5274	B	1	9.18	29.69	43.31	17.82	9.39	......	......	......	......	1.9	5,371	9,668	341	618
			2	......	32.69	47.69	19.62	10.34	......	......	......	......	......	5,915	10,647	390	
			3	......	40.67	59.33	......	12.86	......	......	......	......	......	7,359	13,246		
9 miles southeast of; on Rock Creek, SE. ¼ NE. ¼ sec. 16, T. 13 N., R. 17 E., Sharp mine, 300 feet in, 3½-foot cut.	5266	B	1	15.72	29.64	43.81	10.83	2.81	......	......	......	......	6.5	......	......	341	619
			2	......	35.17	51.98	12.85	3.33	......	......	......	......	......	......	......	390	
			3	......	40.35	59.65	......	3.82	......	......	......	......	......	......	......		
9½ miles southeast of; on Rock Creek, SE. ¼ NW. ¼ sec. 15, T. 13 N., R. 17 E., Cooper mine, 38-inch cut.	5264	B	1	16.86	30.23	45.60	7.31	3.03	5.62	58.27	.67	25.10	8.2	5,726	10,307	341	619
			2	......	36.36	54.85	8.79	3.64	4.51	70.08	.81	12.17	......	6,887	12,397	390	
			3	......	39.87	60.13	......	3.99	4.95	76.84	.89	13.33	......	7,551	13,592		
10 miles southeast of; on Rock Creek, NW. ¼ SW. ¼ sec. 14, T. 13 N., R. 17 E., Rand mine, 50 feet in, 2½-foot cut.	5273	B	1	13.90	26.25	41.84	18.01	6.05	......	......	......	......	6.1	5,381	9,686	341	620
			2	......	30.49	48.59	20.92	7.03	......	......	......	......	......	6,249	11,248	390	
			3	......	38.55	61.45	......	8.89	......	......	......	......	......	7,902	14,224		
Musselshell (Yellowstone County), 7 miles northwest of; T. 9 N., R. 27 E., Homesteader's prospect,[a] 25 feet in, 28-inch cut, Homestead bed.	6829	B	1	18.14	27.22	50.49	4.15	.88	5.46	60.48	.77	28.26	14.0	5,789	10,420	381	620
			2	......	33.25	61.68	5.07	1.08	4.20	73.88	.94	14.83	......	7,072	12,730		
			3	......	35.03	64.97	......	1.14	4.42	77.83	.99	15.62	......	7,750	13,410		

Roundup (Yellowstone County), 1 mile west of; NW. ¼ sec. 23, T. 8 N., R. 25 E., Commercial mine,[a] 900 feet in, Roundup bed, 68-inch cut.	8801	B	1	14.3	28.0	51.8	5.9	.50	......	......	......	......	8.1	6,135	11,050	381	621
			2	......	32.5	60.6	6.9	.55	......	......	......	......	......	7,160	12,890		
			3	......	35.0	65.0	......	.60	......	......	......	......	......	7,690	13,840		
Utica, 2 miles west of; NE. ¼ NE. ¼ sec. 24, T. 14 N., R. 12 E., Showan mine, 100 feet in, 38-inch cut.	5290	B	1	9.95	24.87	44.22	20.96	5.51	......	......	......	......	3.0	4,937	8,887	341	621
			2	......	27.62	49.10	23.28	6.12	......	......	......	......	......	5,483	9,869	390	
			3	......	36.00	64.00	......	7.98	......	......	......	......	......	7,147	12,865		
Windham, 4½ miles southwest of; on Willow Creek, NE. ¼ sec. 19, T. 15 N., R. 12 E., Hughes mine, main entry, 250 feet from mouth, 56-inch cut.	3756	B	1	11.26	25.85	46.49	16.40	4.56	4.51	53.47	.69	20.37	5.5	5,122	9,220	316	622
			2	......	29.13	52.39	18.48	5.14	3.67	60.26	.78	11.67	......	5,772	10,390	356	
			3	......	35.74	64.26	......	6.30	4.51	73.92	.95	14.32	......	7,081	12,746		
5 miles southwest of; SW. ¼ SE. ¼ sec. 20, T. 15 N., R. 12 E., west side of Spring Draw, Seman mine, 400 feet from mouth, 55-inch cut.	3753	B	1	9.27	29.57	45.90	15.26	3.96	4.78	58.13	.79	17.08	4.6	5,675	10,215	316	622
			2	......	32.59	50.59	16.82	4.36	4.13	64.07	.87	9.75	......	6,254	11,257	356	
			3	......	39.19	60.81	......	5.25	4.96	77.02	1.05	11.72	......	7,519	13,534		
GALLATIN COUNTY.																	
Chesnut, near; SW. ¼ sec. 13, T. 2 S., R. 6 E., Beede and Bailey mine, run-of-mine sample.	6621	B	1	2.05	16.42	73.22	8.31	.86	4.08	81.03	1.28	4.44	1.5	7,829	14,092	......	623
			2	......	16.76	74.76	8.48	.88	3.93	82.72	1.31	2.68	......	7,993	14,387		
			3	......	18.31	81.69	......	.96	4.29	90.39	1.43	2.93	......	8,734	15,721		
Near; sec. 21, T. 2 S., R. 7 E., Mountainside mine, sampled by J. P. Rowe.	3667	B	1	5.38	26.95	37.04	30.63	.33	4.24	50.58	.81	13.41	2.8	5,019	9,034	......	623
			2	......	28.48	39.15	32.37	.35	3.85	53.46	.86	9.11	......	5,305	9,549		
			3	......	42.11	57.89	......	.52	5.69	79.04	1.27	13.48	......	7,843	14,117		
8 miles south of; Hoffman mine (third entry, 800 feet west of foot of slope, 325 feet down, 94-inch cut).	3813	B	1	12.50	31.05	39.57	16.88	.50	......	......	......	......	3.4	......	......	......	623
			2	......	35.49	45.22	19.29	.57	......	......	......	......	......	......	......		
			3	......	43.97	56.03	......	.71	......	......	......	......	......	......	......		
Same (7-foot cut)	3814	B	1	10.42	28.64	30.00	30.94	.44	......	......	......	......	2.1	......	......	......	623
			2	......	31.97	33.49	34.54	.49	......	......	......	......	......	......	......		
			3	......	48.84	51.16	......	.75	......	......	......	......	......	......	......		
Same (1,200 feet in mine, head of west entry)	3818	B	1	12.40	36.83	42.26	8.51	.61	5.64	62.53	.93	21.78	2.9	6,083	10,949	......	623
			2	......	42.05	48.23	9.72	.70	4.86	71.38	1.06	12.28	......	6,944	12,499		
			3	......	46.57	53.43	......	.77	5.39	79.06	1.18	13.60	......	7,691	13,844		
Same (location in mine not stated)	3821	B	1	13.18	33.44	36.91	16.47	.63	5.34	52.63	.86	24.07	3.0	5,288	9,518	......	623
			2	......	38.52	42.51	18.97	.73	4.47	60.62	.99	14.22	......	6,091	10,964		
			3	......	47.53	52.47	......	.90	5.52	74.81	1.22	17.55	......	7,517	13,531		
Storrs (3 miles southeast of Chesnut), Anaconda mine, J. P. Rowe sample.	3691	B	1	6.25	32.41	45.65	15.69	.44	5.20	63.35	.91	14.41	4.5	6,364	11,455	......	623
			2	......	34.57	48.69	16.74	.47	4.81	67.58	.97	9.43	......	6,788	12,218		
			3	......	41.52	58.48	......	.56	5.78	81.16	1.16	11.34	......	8,153	14,675		
Storrs No. 3 mine, No. 2 bed (4,600 feet north of opening, 71-inch bed, 5-foot cut).	166D	A	1	4.85	29.98	36.45	28.72	.51	......	......	......	......	3.0	......	......	368	624
			2	......	31.51	38.30	30.19	.54	......	......	......	......	......	......	......		
			3	......	45.13	54.87	......	.77	......	......	......	......	......	......	......		
Same (4,000 feet north of opening, 8½-foot bed, 73-inch cut).	167D	A	1	4.01	34.54	45.48	15.97	.51	......	......	......	......	2.0	6,589	11,860	368	624
			2	......	35.98	47.38	16.64	.53	......	......	......	......	......	6,864	12,355		
			3	......	43.16	56.84	......	.64	......	......	......	......	......	8,234	14,821		
Same (run of mine, 40 tons)	211D	C	1	4.13	29.63	35.38	30.86	.52	4.29	50.85	.70	12.78	1.3	5,053	9,095	368	......
			2	......	30.90	36.91	32.19	.54	3.99	53.04	.73	9.51	......	5,271	9,487		
			3	......	45.57	54.43	......	.80	5.88	78.22	1.08	14.02	......	7,773	13,991		
½ mile east of; sec. 26, T. 2 S., R. 7 E., Washoe No. 1 (Hodson) mine, pillar between rooms 1 and 2. Bed about 4+ feet.	6597	B	1	5.77	33.14	50.52	10.57	.50	5.38	69.23	1.01	13.31	3.8	6,823	12,281	......	624
			2	......	35.17	53.61	11.22	.53	5.03	73.47	1.07	8.68	......	7,241	13,034		
			3	......	39.62	60.38	......	.60	5.67	82.75	1.21	9.77	......	8,156	14,681		

[a] Now included in Musselshell County.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
MONTANA—Continued.																	
GRANITE COUNTY.																	
Drummond, near, prospect in the NW. ¼ NW. ¼ sec. 35, T. 11 N., R. 13 W., 4½-foot cut.	*10534	B	1	19.39	37.72	25.97	16.92	1.37	6.44	45.98	0.63	28.66	9.30	4,831	8,696	......	625
			2	....	46.79	32.22	20.99	1.70	5.32	57.04	.78	14.17	....	5,993	10,787		
			3	....	59.22	40.78	....	2.15	6.73	72.20	.99	17.93	....	7,585	13,653		
MEAGHER COUNTY.																	
Dorsey, 10 miles southeast of; at head of Sixteen-Mile Creek, NW. ¼ NW. ¼ sec. 6, T. 5 N., R. 9 E., Reese mine,[a] 200 feet in, 43-inch cut.	5733	B	1	6.69	25.32	35.75	32.24	.47	....	....	....	....	4.1	4,744	8,539	341	625
			2	....	27.14	38.31	34.55	.50	....	....	....	....	....	5,084	9,151		
			3	....	41.47	58.53	....	.76	....	....	....	....	....	7,768	13,982		
Harlowton, 12 miles southwest of; near Big Elk post office, on Big Elk Creek, SW. ¼ SW. ¼ sec. 31, T. 7 N., R. 14 E., 18-inch cut,[a] weathered.	5734	B	1	29.35	27.47	31.57	11.61	.29	....	....	....	....	14.0	3,541	6,374	341	625
			2	....	38.88	44.69	16.43	.41	....	....	....	....	....	5,012	9,022		
			3	....	46.52	53.48	....	.49	....	....	....	....	....	5,997	10,796		
MUSSELSHELL COUNTY.[b]																	
PARK COUNTY.																	
Aldridge, Aldridge mine, NW. ¼ sec. 1, T. 9 S., R. 7 E..	3666	B	1	3.96	22.53	59.34	14.17	.58	4.61	70.57	1.12	8.95	2.7	7,091	12,764	......	626
			2	....	23.46	61.79	14.75	.60	4.34	73.48	1.17	5.66	....	7,383	13,289		
			3	....	27.52	72.48	....	.71	5.09	86.19	1.37	6.64	....	8,661	15,590		
Same (10,000 feet in mine, No. 3 bed, tipple sample).	6639	B	1	5.20	35.33	40.07	19.40	.62	....	....	....	....	2.7	5,937	10,687	......	626
			2	....	37.27	42.26	20.47	.65	....	....	....	....	....	6,263	11,273		
			3	....	46.86	53.14	....	.82	....	....	....	....	....	7,874	14,173		
Same (6,000 feet from mouth, No. 1 bed, about 4½ feet).	6599	B	1	1.87	19.79	54.74	23.60	.44	4.35	64.40	.86	6.35	.9	6,289	11,320	......	626
			2	....	20.17	55.78	24.05	.45	4.22	65.63	.88	4.77	....	6,409	11,536		
			3	....	26.56	73.44	....	.59	5.56	86.42	1.16	6.27	....	8,439	15,190		
Same (washed coal, two-thirds from Aldridge mine and one-third from Foster mine).	6600	B	1	17.50	19.37	45.22	17.91	.52	5.36	55.05	.88	20.28	10.6	5,486	9,875	......	626
			2	....	23.48	54.81	21.71	.63	4.15	66.73	1.07	5.71	....	6,650	11,970		
			3	....	29.99	70.01	....	.80	5.30	85.24	1.37	7.29	....	8,494	15,289		
1½ miles southwest of; sec. 2, T. 9 S., R. 7 E., Foster mine, No. 1 bed.	6601	B	1	3.02	29.55	56.35	11.08	.85	5.12	73.60	1.14	8.21	2.4	7,381	13,286	......	627
			2	....	30.47	58.11	11.42	.88	4.93	75.89	1.18	5.70	....	7,611	13,700		
			3	....	34.40	65.60	....	.99	5.57	85.67	1.33	6.44	....	8,592	15,466		
Chimney Rock, NW. ¼ sec. 27, T. 3 S., R. 8 E., Maxey mine, face of entry, Maxey 9-foot bed, cut 8 feet 8 inches.	6607	B	1	16.33	30.12	40.05	13.50	.41	5.15	53.48	.82	26.64	9.4	5,137	9,247	......	627
			2	... ...	36.00	47.87	16.13	.49	3.99	63.92	.98	14.49	....	6,140	11,052		
			3	....	42.92	57.08	....	.58	4.76	76.21	1.17	17.28	....	7,321	13,178		
Electric (Horr), NW. ¼ sec. 7, T. 9 S., R. 8 E., Newton mine, 1,000 feet in.	6610	B	1	4.25	27.34	48.92	19.49	1.33	4.81	64.07	.97	9.33	3.2	63.41	11,414	......	627
			2	....	28.55	51.09	20.36	1.39	4.53	66.91	1.01	5.80	....	6,623	11,921		

			3	......	35.85	64.15	......	1.75	5.69	84.02	1.27	7.27	......	8,317	14,971		
7 miles from; Mountain House mine (Korentz mine, new name), 4,300 feet from entrance.	3725	B	1	11.75	36.38	41.35	10.52	.39	5.40	61.17	.87	21.65	3.7	5,976	10,757	......	627
			2	......	41.22	46.86	11.92	.44	4.63	69.31	.99	12.71	......	6,771	12,188		
			3	......	46.80	53.20	......	.50	5.26	78.70	1.12	14.42	......	7,688	13,838		
Livingston, NE. ¼ NW. ¼ sec. 25, T. 2 S., R. 8 E., Livingston mine, 100 feet in, 31-inch cut.	6596	B	1	6.26	30.60	36.88	26.26	.68	4.77	53.79	.86	13.64	4.6	5,440	9,792	......	628
			2	......	32.64	39.35	28.01	.73	4.34	57.38	.92	8.62	......	5,803	10,445		
			3	......	45.34	54.66	......	1.01	6.03	79.71	1.28	11.97	......	8,061	14,510		
Myersburg, 8 miles north of; sec. 36, T. 5 N., R. 8 E., coal-bin sample.	5723	B	1	2.45	30.83	51.75	14.97	.63	......	......	......	......	.6	6,854	12,337	341	628
			2	......	31.60	53.05	15.35	.64	......	......	......	......	......	7,026	12,647		
			3	......	37.33	62.67	......	.75	......	......	......	......	......	8,300	14,940		
RAVALLI COUNTY.																	
Darby, 3 miles north of; NW. ¼ NE. ¼ sec. 34, T. 4 N., R. 21 W., Nicholson mine.	3589	B	1	30.59	36.21	20.82	12.38	.66	......	......	......	......	20.0	......	......	......	628
			2	......	52.17	29.99	17.84	.95	......	......	......	......	......	......	......		
			3	......	63.49	36.51	......	1.16	......	......	......	......	......	......	......		
ROSEBUD COUNTY.																	
Birney, 12 miles southeast of; sec. 2, T. 8 S., R. 43 E., 60 feet in, Kendrick mine, Kendrick bed, 11½-foot cut.	5403	B	1	28.86	29.50	38.36	3.28	.32	6.31	48.66	.84	40.59	12.8	4,573	8,231	341	628
			2	......	41.47	53.92	4.61	.45	4.34	68.40	1.18	21.02	......	6,428	11,570		
			3	......	43.47	56.53	......	.47	4.55	71.70	1.24	22.04	......	6,739	12,129		
SWEET GRASS COUNTY.																	
Nye, 6 miles north of; NW. ¼ NE. ¼ sec. 29, T. 4 S., R. 16 E., Loffer mine, face of entry, 5½-foot bed, 55-inch cut.	6320	B	1	6.75	32.37	44.47	16.41	.53	5.04	61.47	1.10	15.45	2.4	5,933	10,679	......	629
			2	......	34.71	47.69	17.60	.57	4.60	65.92	1.18	10.13	......	6,363	11,453		
			3	......	42.12	57.88	......	.69	5.58	80.00	1.43	12.30	......	7,722	13,900		
Winnecook (Meagher County), 6½ miles southeast of; on Joe Creek, SE. ¼ sec. 1, T. 6 N., R. 16 E., prospect drift, 20 feet from entry, 28-inch cut.	5735	B	1	10.37	22.28	32.06	35.29	.58	......	......	......	......	5.0	4,007	7,213	341	629
			2	......	24.86	35.77	39.37	.65	......	......	......	......	......	4,471	8,048		
			3	......	41.00	59.00	......	1.07	......	......	......	......	......	7,374	13,274		
8 miles southeast of; on south bank of Holcomb Creek, SE. ¼ sec. 11, T. 6 N., R. 16 E., weathered, surface outcrop, 30-inch cut.	5732	B	1	25.26	23.51	36.68	14.55	.41	......	......	......	......	13.9	3,546	6,383	341	630
			2	......	31.45	49.08	19.47	.55	......	......	......	......	......	4,744	8,540		
			3	......	39.05	60.95	......	.68	......	......	......	......	......	5,891	10,605		
VALLEY COUNTY.																	
Culbertson, 3 miles north of; sec. 8, T. 28 N., R. 56 E., Bruegger mine, west side of main entry. Entire bed, about 8½ feet. Bed G.	7059	B	1	43.16	22.03	28.99	5.82	.29	......	......	......	......	38.7	3,333	5,999	381	630
			2	......	38.76	51.00	10.24	.51	......	......	......	......	......	5,864	10,555		
			3	......	43.18	56.82	......	.57	......	......	......	......	......	6,533	11,759		
YELLOWSTONE COUNTY.																	
Buckey, 3 miles northeast of;[c] NE. ¼ NW. ¼ sec. 36, T. 6 N., R. 26 E., Dorrity bed, 32-inch cut, badly weathered.	5798	B	1	16.95	30.78	39.64	12.63	.49	......	......	......	......	3.2	4,776	8,597	341	630
			2	......	37.06	47.73	15.21	.59	......	......	......	......	......	5,751	10,352		
			3	......	43.71	56.29	......	.70	......	......	......	......	......	6,783	12,209		
3½ miles north of;[c] NE. ¼ NE. ¼ sec. 27, T. 6 N., R. 26 E., Dorrity bed, 2-foot cut, badly weathered.	5801	B	1	16.91	33.05	39.15	10.89	.34	......	......	......	......	3.6	4,640	8,352	341	631
			2	......	39.78	47.11	13.11	.41	......	......	......	......	......	5,584	10,051		
			3	......	45.78	54.22	......	.47	......	......	......	......	......	6,427	11,567		
4½ miles northeast of; NE. ¼ SW. ¼ sec. 30, T. 6 N., R. 27 E., Mammoth 8½-foot bed (upper 18-inch bench, badly weathered).	5797	B	1	24.59	32.86	27.94	14.61	.41	4.83	41.41	.69	38.05	4.3	3,449	6,208	341	631
			2	......	43.58	37.05	19.37	.54	2.78	54.92	.91	21.48	......	4,574	8,233		
			3	......	54.05	45.95	......	.67	3.45	68.11	1.13	26.64	......	5,673	10,211		
Same (lower 7-foot bench, slightly weathered)..	5799	B	1	17.45	31.16	45.05	6.34	.49	5.45	59.00	.89	27.83	3.0	5,623	10,121	341	631
			2	......	37.75	54.57	7.68	.59	4.25	71.47	1.08	14.93	......	6,812	12,262		
			3	......	40.89	59.11	......	.64	4.60	77.42	1.17	16.17	......	7,379	13,282		

[a] Eagle coal bed.

[b] Mines now included in Musselshell County are indicated by footnote.

[c] Now included in Musselshell County.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
MONTANA—Continued.																	
YELLOWSTONE COUNTY—continued.																	
Buckey—Continued.																	
15 miles northwest of;[a] sec. 23, T. 8 N., R. 25 E., 1 mile east of Roundup (Fergus County), Roundup bed, 4-foot cut.	5800	B	1	12.69	28.71	50.90	7.7	0.54	5.44	64.26	.88	21.18	2.7	6,130	11,034	341	631
			2	......	32.88	58.30	8.82	.62	4.62	73.60	1.01	11.33	......	7,021	12,638	381	
			3	......	36.06	63.94	......	.68	5.06	80.72	1.11	12.43	......	7,700	13,860		
Huntley, 28 miles northeast of; surface prospect in Mammoth 27-foot 9-inch bed (6-foot cut).	6831	B	1	17.43	31.16	48.09	3.32	.35	......	......	......	......	12.9	5,711	10,280	381	632
			2	......	37.74	58.24	4.02	.42	......	......	......	......	......	6,917	12,451		
			3	......	39.32	60.68	......	.44	......	......	......	......	......	7,207	12,973		
Same (lower bench, 5-foot cut)................	6828	B	1	18.65	29.62	46.61	5.12	.78	......	......	......	......	14.8	5,495	9,892	381	632
			2	......	36.41	57.30	6.29	.96	......	......	......	......	......	6,755	12,160		
			3	......	38.85	61.15	......	1.02	......	......	......	......	......	7,208	12,976		
NW. ¼ SE. ¼ sec. 10, T. 6 N., R. 28 E., Cow Gulch prospect, Dougherty 59½-inch bed, 58½-inch cut.	6830	B	1	21.56	30.46	43.02	4.96	.72	......	......	......	......	16.3	5,009	9,016	381	632
			2	......	38.83	54.85	6.32	.92	......	......	......	......	......	6,386	11,495		
			3	......	41.45	58.55	......	.98	......	......	......	......	......	6,817	12,271		
Musselshell, 4 miles southeast of; sec. 2, T. 8 N., R. 29 E., surface outcrop on Hawk Creek, Nevorbig & Todd mine,[a] Custer bed, 30½-inch cut, weathered.	* 9129	B	1	20.68	28.61	44.66	6.05	.79	......	......	......	......	14.8	5,409	9,736	......	633
			2	......	36.07	56.30	7.63	1.00	......	......	......	......	......	6,820	12,276		
			3	......	39.05	60.95	......	1.08	......	......	......	......	......	7,383	13,289		
Same (6 miles east of; SE. ¼ SE. ¼ sec. 17, T. 9 N., R. 30 E., on Carpenter Creek, Robbins prospect,[a] 75 feet from mouth, Carpenter bed, 54-inch cut).	7197	B	1	22.77	27.00	45.58	4.65	.32	5.47	53.49	.93	35.14	13.5	4,924	8,863	381	633
			2	......	34.96	59.02	6.02	.41	3.81	69.26	1.20	19.30	......	6,376	11,477		
			3	......	37.20	62.80	......	.44	4.05	73.70	1.28	20.53	......	6,785	12,213		
Same (8 miles south of; SE. ¼ NE. ¼ sec. 29, T. 8 N., R. 29 E., on Fishel Creek, Grant prospect,[a] 100 feet from mouth, Buckey bed, 30-inch cut).	7195	B	1	16.66	27.85	48.07	7.42	1.00	5.61	59.22	.97	25.78	7.2	5,681	10,226	381	633
			2	......	33.42	57.68	8.90	1.20	4.51	71.06	1.16	13.17	......	6,817	12,271		
			3	......	36.69	63.31	......	1.32	4.95	78.00	1.27	14.46	......	7,483	13,469		
7 miles east of; NW. ¼ SW. ¼ sec. 28, T. 9 N., R. 30 E., Custer prospect, 15 feet in, Custer bed, 28-inch cut, weathered.	8467	B	1	28.6	28.0	36.2	7.2	.65	......	......	......	......	19.3	3,950	7,115	431	634
			2	......	39.0	51.0	10.0	.95	......	......	......	......	......	5,535	9,965		
			3	......	43.0	57.0	......	1.05	......	......	......	......	......	6,155	11,080		
9 miles east of; sec. 26, T. 9 N., R. 30 E., surface outcrop, Grant prospect,[a] Carpenter Creek bed, 94½-inch cut.	8466	B	1	28.7	25.5	39.4	6.4	.55	......	......	......	......	18.7	4,020	7,240	381	634
			2	......	36.0	55.1	8.9	.80	......	......	......	......	......	5,640	10,150	431	
			3	......	39.5	60.5	......	.85	......	......	......	......	......	6,195	11,150		
9½ miles east of; NE. ¼ SE. ¼ sec. 26, T. 9 N., R. 30 E., surface outcrop,[a] near Grant prospect, mine	8465	B	1	29.4	25.5	38.6	6.5	.35	......	......	......	......	19.3	3,980	7,170	381	635
			2	......	35.9	55.0	9.1	.50	......	......	......	......	......	5,635	10,150	431	

of Mary McCleary and Anne Oker, 50 feet in, McCleary bed, 45-inch cut.			3	......	39.5	60.5	......	.55	......	......	......	......	......	6,205	11,170		
10 miles east of; SE. ¼ NW. ¼ sec. 36, T. 9 N., R. 30 E., surface prospect,[a] Buckey bed, 14-inch cut.	8464	B	1	18.4	28.4	44.09	9.11	1.60	6.01	53.68	.80	28.80	11.1	5,179	9,322	381	635
			2	......	34.8	54.04	11.16	1.96	4.86	65.78	.98	15.26	......	6,347	11,425	431	
			3	......	39.17	60.83	......	2.21	5.47	74.04	1.10	17.18	......	7,144	12,859		
Roundup, NE. ¼ NW. ¼ sec. 24, T. 8 N., R. 25 E., Bull Mountain field, Republic mine, No. 1,[a] 800 feet east of foot of shaft, Roundup bed, 68½-inch cut.	8803	B	1	13.4	28.0	52.4	6.2	.40	......	......	......	......	6.5	6,140	11,050	381	636
			2	......	32.5	60.3	7.2	.45	......	......	......	......	......	7,085	12,760		
			3	......	35.0	65.0	......	.50	......	......	......	......	......	7,635	13,740		
3 miles southwest of; sec. 36, T. 8 N., R. 25 E., Republic mine, No. 2,[a] 500 feet northwest of foot of main shaft, Roundup bed, 68-inch cut.	8802	B	1	13.7	28.0	51.7	6.6	.45	......	......	......	......	7.1	6,210	11,180	381	636
			2	......	32.5	59.9	7.6	.55	......	......	......	......	......	7,195	12,950		
			3	......	35.0	65.0	......	.55	......	......	......	......	......	7,785	14,020		
Waco, 6 miles northwest of; NE. ¼ NW. ¼ sec. 16, T. 5 N., R. 31 E., surface outcrop on Buffalo Creek, Perry bed, 2-foot cut.	*9130	B	1	29.7	29.0	37.2	4.1	.35	......	......	......	......	23.3	3,975	7,155	381	637
			2	......	41.5	52.7	5.8	.50	......	......	......	......	......	5,650	10,175	431	
			3	......	44.0	56.0	......	.50	......	......	......	......	......	6,000	10,800		
Wolf Spring, 1 mile east of; sec. 10, T. 7 N., R. 31 E., surface prospect on Alkali Creek, Big Dirty bed,[b] weathered.	8621	B	1	15.1	16.5	21.4	47.0	.15	......	......	......	......	10.3	2,140	3,852	381	637
			2	......	19.5	25.1	55.4	.20	......	......	......	......	......	2,520	4,535	431	
			3	......	43.0	57.0	......	.45	......	......	......	......	......	5,645	10,160		
2 miles north of; NE. ¼ NW. ¼ sec. 32, T. 8 N., R. 31 E., surface prospect on Alkali Creek, McCleary bed, 50-inch cut.	8578	B	1	20.7	26.5	46.3	6.5	.45	......	......	......	......	9.5	5,150	9,270	381	638
			2	......	33.5	58.3	8.2	.55	......	......	......	......	......	6,495	11,690		
			3	......	36.5	63.5	......	.60	......	......	......	......	......	7,075	12,740		
NEW MEXICO.																	
COLFAX COUNTY.																	
Blossburg, Dutchman mine, "Raton" bed (5,300 feet north of slope, 81-inch cut).	3226	A	1	2.25	33.19	52.19	12.37	.75	......	......	......	......	1.2	7,239	13,030	332	639
			2	......	33.95	53.40	12.65	.77	......	......	......	......	......	7,405	13,329	18	
			3	......	38.87	61.13	......	.88	......	......	......	......	......	8,478	15,260	28	
Same (4,200 feet southwest of slope, 78½-inch cut).	3227	A	1	2.31	33.01	51.58	13.10	.66	......	......	......	......	1.2	......	......	332	639
			2	......	33.79	52.80	13.41	.68	......	......	......	......	......	......	......	18	
			3	......	39.02	60.98	......	.78	......	......	......	......	......	......	......	28	
Same (run of mine)	3294	C	1	2.72	31.85	50.86	14.57	.69	4.88	69.96	1.17	8.73	1.4	6,966	12,539	332	......
			2	......	32.74	52.28	14.98	.71	4.71	71.92	1.20	6.48	......	7,161	12,890		
			3	......	38.51	61.49	......	.83	5.54	84.58	1.41	7.64	......	8,422	15,160		
			4	......	......	......	......	......	5.59	85.31	1.43	7.67	......	8,473	15,251		
Brilliant, "Tinpan" bed (475 feet southwest of drift mouth, 4½-foot cut).	3228	A	1	2.19	35.95	50.75	11.11	.57	......	......	......	......	1.0	7,257	13,063	332	639
			2	......	36.76	51.88	11.36	.58	......	......	......	......	......	7,420	13,356	18	
			3	......	41.46	58.54	......	.66	......	......	......	......	......	8,370	15,066	28	
Same (800 feet south of drift mouth, 4-foot cut)	3229	A	1	2.67	36.25	51.26	9.82	.58	......	......	......	......	1.3	......	......	332	639
			2	......	37.24	52.67	10.09	.60	......	......	......	......	......	......	......	18	
			3	......	41.42	58.58	......	.66	......	......	......	......	......	......	......	28	
Same (slack, through 1¼-inch screen)	3315	C	1	3.38	34.63	48.45	13.54	.61	5.13	68.67	1.50	10.55	1.7	6,914	12,445	332	......
			2	......	35.84	50.15	14.01	.63	4.92	71.07	1.55	7.82	......	7,156	12,881		
			3	......	41.68	58.32	......	.73	5.72	82.65	1.81	9.09	......	8,322	14,980		
			4	......	......	......	......	......	5.76	83.28	1.82	9.14	......	8,367	15,061		
Same (run of mine)	3331	C	1	2.78	34.31	48.34	14.57	.61	5.06	68.51	1.51	9.74	1.4	6,830	12,294	332	......
			2	......	35.29	49.72	14.99	.63	4.89	70.47	1.55	7.47	......	7,025	12,645		
			3	......	41.51	58.49	......	.74	5.75	82.89	1.83	8.79	......	8,264	14,875		
			4	......	......	......	......	......	5.79	83.52	1.84	8.85	......	8,308	14,954		

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[a] Now included in Musselshell County.

[b] Bed 15 to 16 feet, with many partings, probably all included in cut.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
NEW MEXICO—Continued.																	
COLFAX COUNTY—continued.																	
Dawson, No. 2 mine (6,000 feet north of opening, room 21, off seventh east entry, off first north, 5⅓-foot cut). "Raton" bed.	256D	A	1	2.17	37.93	45.08	14.82	0.69	......	......	......	......	0.7	6,992	12,586	368	640
			2	......	38.78	46.08	15.14	.71	......	......	......	......	......	7,147	12,865		
			3	......	45.69	54.31	......	.83	......	......	......	......	......	8,315	14,967		
Same (run of mine, 32 tons)	271D	C	1	1.96	35.96	46.20	15.88	.75	5.01	68.26	1.01	9.09	......	6,913	12,443	......	......
			2	......	36.68	47.12	16.20	.77	4.88	69.62	1.03	7.50	......	7,051	12,692		
			3	......	43.77	56.23	......	.91	5.83	83.08	1.23	8.95	......	8,414	15,145		
Same (9⅔-foot cut)	6606	A	1	3.09	32.25	49.40	15.26	.71	......	......	......	......	1.9	6,799	12,238	......	640
			2	......	33.28	50.97	15.75	.73	......	......	......	......	......	7,016	12,629		
			3	......	39.50	60.50	......	.87	......	......	......	......	......	8,327	14,989		
Raton, 3 miles northeast of; sec. 16, T. 31 N., R. 24 E., Sugarite mine (1,800 feet from mouth, 55½-inch cut). Sugarite bed.	6286	B	1	2.12	36.06	50.22	11.60	.64	4.94	69.96	1.33	11.53	.5	7,203	12,965	......	641
			2	......	36.84	51.31	11.85	.65	4.80	71.48	1.36	9.86	......	7,359	13,246		
			3	......	41.79	58.21	......	.74	5.45	81.09	1.54	11.18	......	8,348	15,026		
5 miles northeast of; sec. 10, T. 31 N., R. 24 E., Hartzel mine (50 feet from mouth of abandoned entry, 43-inch cut). Sugarite bed.	6285	B	1	5.37	34.01	47.95	12.67	.68	......	......	......	......	2.0	6,441	11,594	......	641
			2	......	35.94	50.67	13.39	.72	......	......	......	......	......	6,806	12,251		
			3	......	41.50	58.50	......	.83	......	......	......	......	......	7,858	14,144		
6 miles east of; sec. 24, T. 31 N., R. 24 E., Latimore prospect (300 feet from mouth of abandoned entry, 58½-inch cut).	6287	B	1	6.73	32.94	52.50	7.83	.48	5.26	68.94	1.20	16.29	2.9	6,932	12,473	......	642
			2	......	35.32	56.28	8.40	.51	4.84	73.92	1.29	11.04	......	7,432	13,377		
			3	......	38.56	61.44	......	.56	5.28	80.70	1.41	12.05	......	8,114	14,605		
About 10 miles east of; sec. 10, T. 51 N., R. 25 E., from nearly clean face exposed in gulch near Scoop mine (not in operation, 49-inch cut).	6284	B	1	9.78	33.11	47.54	9.57	.52	......	......	......	......	5.1	6,559	11,806	......	642
			2	......	36.70	52.69	10.61	.58	......	......	......	......	......	7,270	13,086		
			3	......	41.06	58.94	......	.65	......	......	......	......	......	8,133	14,639		
About 32 miles west of; Dead Easy mine [a] (face 222 feet from opening, includes lower bench exclusive of bone, 91-inch bed, 61-inch cut).	6595	B	1	2.45	27.54	52.61	17.40	.77	4.82	68.38	.90	7.73	1.8	6,778	12,200	......	642
			2	......	28.23	53.93	17.84	.79	4.66	70.10	.92	5.69	......	6,948	12,506		
			3	......	34.36	65.64	......	.96	5.67	85.32	1.12	6.93	......	8,456	15,221		
Van Houten, Willow mine, "Raton" bed (2,000 feet northwest of drift mouth, 68¼-inch cut).	3221	A	1	2.50	35.47	52.90	9.13	.72	......	......	......	......	1.0	7,293	13,127	332	643
			2	......	36.38	54.26	9.36	.74	......	......	......	......	......	7,480	13,464	18	
			3	......	40.14	59.86	......	.82	......	......	......	......	......	8,253	14,855	28	
Same (3,000 feet from drift mouth, 72¼-inch cut).	3222	A	1	3.48	33.02	50.58	12.92	.64	......	......	......	......	2.0	......	......	332	643
			2	......	34.21	52.40	13.39	.66	......	......	......	......	......	......	......	18	
			3	......	39.50	60.50	......	.77	......	......	......	......	......	......	......	28	
Same (run of mine)	3295	C	1	3.45	32.06	47.82	16.67	.73	4.95	66.19	1.23	10.23	2.0	6,607	11,893	332	......
			2	......	33.20	49.54	17.26	.76	4.73	68.55	1.27	7.43	......	6,843	12,317		
			3	......	40.14	59.86	......	.91	5.72	82.86	1.54	8.97	......	8,271	14,888		
			4	......	......	......	......	......	5.77	83.62	1.55	9.06	......	8,328	14,990		

Same (lump, over ¾-inch screen, 10 tons).......	3307	C	1	4.36	32.21	47.51	15.92	.83	4.79	65.96	1.18	11.32	3.0	6,618	11,912	332	......
			2		33.68	49.67	16.65	.87	4.51	68.97	1.23	7.77		6.920	12,456		
			3		40.40	59.60		1.04	5.41	82.74	1.48	9.33		8,302	14,944		
			4						5.46	83.62	1.50	9.42		8,365	15,057		
Same (slack, through ¾-inch screen, 40 tons)....	3308	C	1	2.75	33.19	48.54	15.52	.64	4.84	67.70	1.18	10.12	1.4	6,759	12,166	332	......
			2		34.13	49.91	15.96	.66	4.66	69.62	1.21	7.89		6,950	12,510		
			3		40.61	59.39		.78	5.54	82.83	1.45	9.40		8,270	14,886		
			4						5.59	83.48	1.45	9.48		8,318	14,972		
Sec. 34, T. 30 N., R. 22 E., Willow No. 5 mine, left entry 3, "Raton" bed, 61-inch cut (upper bench).	6417	B	1	2.42	33.69	54.42	9.47	.66	5.21	72.84	1.10	10.72	1.4	7,303	13,145	......	644
			2		34.53	55.77	9.70	.68	5.06	74.65	1.13	8.78		7,484	13,471		
			3		38.24	61.76		.75	5.60	82.67	1.25	9.73		8,288	14,918		
Same (lower bench)...........................	6418	B	1	2.51	34.64	54.03	8.82	.76	5.50	73.65	1.20	10.07	1.5	7,404	13,327	......	644
			2		35.53	55.42	9.05	.78	5.35	75.54	1.23	8.05		7,594	13,669		
			3		39.07	60.93		.86	5.88	83.06	1.35	8.85		8,350	15,030		
Same (500 feet west, cross cut between entries 3 and 4, near room 6, lower seam, 107½-inch cut).	6931	A	1	2.43	34.50	53.30	9.77	.64					1.3	7,321	13,178	6	644
			2		35.36	54.63	10.01	.66						7,503	13,505		
			3		39.29	60.71		.73						8,337	15,007		
Willow No. 6 mine (800 feet south, room 5, left entry 3, 99½-inch cut). "Raton" bed.	6930	A	1	2.84	33.26	51.53	12.37	1.19	5.26	71.59	1.24	8.35	1.5	7,065	12,717	6	644
			2		34.23	53.04	12.73	1.22	5.08	73.68	1.28	6.01		7,271	13,088		
			3		39.22	60.78		1.40	5.82	84.43	1.47	6.88		8,331	14,996		
Yankee, NW. ¼ SW. ¼ sec. 1, T. 31 N., R. 24 E., Yankee No. 3 mine, working face 1,000 feet from mouth of main entry, 50½-inch cut. Yankee bed.	6243	B	1	5.02	36.78	46.20	12.00	.56	5.15	66.01	1.28	15.00	2.4	6,702	12,064	......	645
			2		38.73	48.64	12.63	.59	4.83	69.50	1.35	11.10		7,057	12,703		
			3		44.33	55.67		.68	5.53	79.54	1.55	12.70		8,077	14,539		
3 miles southeast of; sec. 20, T. 31 N., R. 25 E., Llewellyn mine, 150 feet from mouth of main entry, 78½-inch cut.	6255	B	1	9.04	34.89	48.89	7.18	.54	5.34	67.48	1.22	18.24	3.5	6,813	12,263	......	645
			2		38.36	53.75	7.89	.59	4.77	74.19	1.34	11.22		7,491	13,484		
			3		41.65	58.35		.64	5.18	80.55	1.45	12.18		8,133	14,639		
2 miles north of; sec. 30, T. 32 N., R. 25 E., Reynolds mine (77-inch bed; 50½-inch cut).	6244	B	1	5.63	33.84	49.24	11.29	.63	4.97	64.93	1.21	16.97	3.4	6,622	11,920	......	646
			2		35.86	52.18	11.96	.67	4.60	68.81	1.28	12.68		7,017	12,631		
			3		40.73	59.27		.76	5.22	78.16	1.45	14.41		7,970	14,346		
M'KINLEY COUNTY.																	
Blackrock, 10 miles northeast of; Zuni Indian School mine, 50 feet from mouth, upper bed, 40-inch cut.	3952	B	1	7.76	37.60	38.66	15.98	1.48	5.67	60.55	.99	15.33	3.9	6,248	11,246	316	646
			2		40.76	41.92	17.32	1.60	5.21	65.65	1.07	9.15		6,773	12,191		
			3		49.30	50.70		1.94	6.31	79.40	1.30	11.05		8,193	14,747		
Chaves, 16 miles northeast of; T. 16 N., R. 11 W., Tiejen prospect, 57-inch cut.	2361	B	1	15.03	37.26	41.97	5.74	.57					5.2			316	646
			2		43.85	49.39	6.76	.67								285	
			3		47.03	52.97	.72										
Clarkville, sec. 14, T. 15 N., R. 19 W., Clark mine, Clark (8½-foot) bed (sample represents 7½ feet).	2434	B	1	13.95	38.43	42.12	5.50	.54					9.3			285	646
			2		44.66	48.95	6.39	.63									
			3		47.71	52.29		.67									
14 miles northwest of (5 miles southeast of St. Michaels, Ariz.); mine of St. Michaels Indian School, 53-inch bed (sample from fresh stock pile).	4112	B	1	14.49	37.08	44.58	3.85	.41	6.02	63.41	1.23	25.08	5.1	6,371	11,468	316	647
			2		43.37	52.13	4.50	.48	5.16	74.16	1.44	14.26		7,451	13,412		
			3		45.41	54.59		.50	5.40	77.65	1.51	14.94		7,801	14,042		
Gallup, 1½ miles east of; NE. ¼ NW. ¼ sec. 14, T. 15 N., R. 18 W., Otero mine (Crown Point 5½-foot bed, 400 feet from opening, 58-inch cut).	1027	A	1	9.13	40.77	40.23	9.87	1.27								316	648
			2		44.87	44.27	10.86	1.40								*48*	
			3		50.33	49.67		1.57								23	
Same, 500 feet from opening (Thatcher 4-foot bed, 4-foot cut).	1028	A	1	9.68	41.42	40.82	8.08	1.55						6,457	11,623	261	648
			2		45.86	45.19	8.95	1.72						7,149	12,869	316	
			3		50.37	49.63		1.88						7,852	14,134	*48*	
Same, 500 feet from opening (Thatcher bed, 4-foot cut).	1029	A	1	9.40	40.05	37.87	12.68	.84								261	648
			2		44.21	41.79	14.00	.93								*48*	
			3		51.40	48.60		1.08									

a "Raton" bed.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
NEW MEXICO—Continued.																	
M'KINLEY COUNTY—continued.																	
Gallup, Otero mine—Continued.																	
Same, 2,000 feet from opening (Otero 61-inch bed, 4½-foot cut).	1038	A	1	10.80	40.35	42.77	6.08	1.06	......	......	......	......	......	......	......	316	648
			2	......	45.24	47.94	6.82	1.19	......	......	......	......	......	......	......	*48*	
			3	......	48.55	51.45	......	1.28	......	......	......	......	......	......	......	23	
Same (slack from Otero and Thatcher beds, 20 tons).	1307	C	1	10.79	33.82	36.73	18.66	1.26	5.22	55.07	.95	18.84	2.9	5,504	9,907	261	......
			2	......	37.91	41.17	20.92	1.41	4.51	61.73	1.06	10.37	......	6,170	11,106	316	
			3	......	47.94	52.06	......	1.79	5.70	78.06	1.35	13.10	......	7,801	14,042	*48*	
			4	......	......	......	......	......	5.80	79.48	1.37	13.35	......	7,903	14,225		
3 miles north of; SE. ¼ sec. 34, T. 16 N., R. 18 W., Weaver mine (No. 3 bed, 2,000 feet from opening, 49-inch cut).	1023	A	1	11.38	42.02	43.13	3.47	.55	......	......	......	......	......	......	......	316	648
			2	......	47.42	48.66	3.92	.62	......	......	......	......	......	......	......	*48*	
			3	......	49.35	50.65	......	.65	......	......	......	......	......	......	......	23	
Same (No. 3 bed)	1024	A	1	12.17	41.68	43.09	3.06	.53	......	......	......	......	......	......	......	261	648
			2	......	47.46	49.06	3.48	.60	......	......	......	......	......	......	......	316	
			3	......	49.17	50.83	......	.63	......	......	......	......	......	......	......	*48*	
Same (No. 3½ bed, 600 feet from opening, 6½-foot cut).	1025	A	1	10.92	42.63	42.35	4.10	.48	......	......	......	......	......	......	......	261	648
			2	......	47.86	47.54	4.60	.54	......	......	......	......	......	......	......	316	
			3	......	50.16	49.84	......	.56	......	......	......	......	......	......	......	*48*	
Same (No. 3½ bed)	1026	A	1	11.00	42.63	42.44	3.93	.55	......	......	......	......	......	6,603	11,885	261	648
			2	......	47.90	47.68	4.42	.62	......	......	......	......	......	7,419	13,354	316	
			3	......	50.11	49.89	......	.65	......	......	......	......	......	7,762	13,972	*48*	
Same (half lump and half slack, 15 tons)	1278	C	1	12.29	34.58	46.14	6.99	.63	5.82	63.31	1.03	22.22	1.6	6,251	11,252	261	......
			2	......	39.42	52.61	7.97	.72	5.08	72.18	1.17	12.88	......	7,127	12,829	361	
			3	......	42.84	57.16	......	.78	5.51	78.43	1.28	14.00	......	7,744	13,939	*48*	
			4	......	......	......	......	......	5.56	79.04	1.29	14.11	......	7,797	14,035		
RIO ARRIBA COUNTY.																	
Lumberton, 1½ miles southwest of; sec. 8, T. 31 N., R. 1 W., Burns-Biggs mine, 200 feet from opening, No. 1 bed, 3-foot cut.	5761	B	1	1.71	36.26	55.11	6.92	.65	5.21	75.38	1.56	10.28	.4	7,625	13,725	341	649
			2	......	36.89	56.07	7.04	.66	5.11	76.69	1.59	8.91	......	7,758	13,964		
			3	......	39.68	60.32	......	.71	5.50	82.50	1.71	9.58	......	8,347	15,021		
Monero, Kutz mine, sec. 17, T. 31 N., R. 1 E., Upper bed, 41-inch cut.	2121	B	1	3.04	39.02	48.28	9.66	3.52	5.57	70.72	1.48	9.05	.9	7,185	12,933	285	649
			2	......	40.25	49.79	9.96	3.63	5.39	72.94	1.53	6.55	......	7,411	13,340	341	
			3	......	44.70	55.30	......	4.03	5.99	81.01	1.70	7.27	......	8,230	14,814		
			4	......	......	......	......	......	6.24	84.42	1.77	7.57	......	8,482	15,268		

Rio Arriba mine, sec. 7, T. 31 N., R. 1 E., Lower (40-inch) bed, 33½-inch cut.	2122	B	1	3.99	39.03	51.04	5.94	1.01	......	......	......	......	1.5	......	......	285	650
			2	......	40.65	53.16	6.19	1.05	......	......	......	......	......	......	......	341	
			3	......	43.33	56.67	......	1.12	......	......	......	......	......	......	......		
SANDOVAL COUNTY.																	
Algodones, 12 miles southeast of; sec. 17, T. 13 N., R. 6 E., Sloan mine, Hopewell bed, 3-foot cut.	1013	B	1	9.68	42.32	41.36	6.64	.66	......	......	......	......	......	......	......	316	650
			2	......	46.86	45.79	7.35	.73	......	......	......	......	......	......	......	48	
			3	......	50.57	49.43	......	.79	......	......	......	......	......	......	......		
14 miles southeast of; 27 miles northeast of Albuquerque, sec. 33, T. 13 N., R. 6 E., Hagan mine, main entry, 700 feet from mouth, Hopewell bed, 49-inch cut.	1012	B	1	7.81	44.72	41.80	5.67	.69	......	......	......	......	......	......	......	316	650
			2	......	48.51	45.34	6.15	.75	......	......	......	......	......	......	......	48	
			3	......	51.69	48.31	......	.80	......	......	......	......	......	......	......		
SAN JUAN COUNTY.																	
Fruitland, 1½ miles northwest of; NW. ¼ SW. ¼ sec. 4, T. 29 N., R. 15 W., Young or Stephens mine, Carbonero (16-foot 10½-inch) bed, 5-foot cut.	2464	B	1	9.89	38.44	41.48	10.19	.64	......	......	......	......	4.5	6,276	11,297	285	651
			2	......	42.66	46.03	11.31	.71	......	......	......	......	......	6,965	12,537	316	
			3	......	48.10	51.90	......	.80	......	......	......	......	......	7,853	14,135		
Pendleton, 1½ miles northwest of; sec. 21, T. 32 N., R. 13 W., Jones mine, Carbonero 48±-foot bed, 7-foot cut.	2465	B	1	8.30	35.56	47.89	8.25	.67	......	......	......	......	4.6	......	......	285	651
			2	......	38.78	52.22	9.00	.73	......	......	......	......	......	......	......	316	
			3	......	42.61	57.39	......	.80	......	......	......	......	......	......	......		
Putnam, 1 mile west of; T. 21 N., R. 11 W., south wall of Chaco Canyon, Pueblo Bonita mine, 60 feet from mouth, 94-inch bed.	3823	B	1	17.46	32.92	41.26	8.36	2.21	......	......	......	......	9.7	......	......	316	651
			2	......	39.88	49.99	10.13	2.68	......	......	......	......	......	......	......		
			3	......	44.38	55.62	......	2.98	......	......	......	......	......	......	......		
Tiz Natzin, 25 miles northwest of Putnam, 2 miles up Coal Creek from Rio Chaco, in 50-foot drift, 38-inch cut.	3811	B	1	15.79	34.99	39.85	9.37	1.78	5.93	55.74	1.39	25.79	7.6	5,539	9,970	316	652
			2	......	41.55	47.32	11.13	2.11	4.96	66.19	1.65	13.96	......	6,578	11,840		
			3	......	46.75	53.25	......	2.38	5.59	74.48	1.86	15.69	......	7,401	13,322		
SAN MIGUEL COUNTY.																	
Pecos, 6½ miles north of; NE. ¼ NE. ¼ sec. 28, T. 18 N., R. 12 E., Cowles mine, Cowles bed, 15-inch cut.	6862	B	1	1.72	22.27	51.39	24.62	2.75	......	......	......	......	.9	......	......	381	652
			2	......	22.66	52.29	25.05	2.80	......	......	......	......	......	......	......		
			3	......	30.23	69.77	......	3.74	......	......	......	......	......	......	......		
SANTA FE COUNTY.																	
Madrid, Madrid No. 1 mine, 200 feet in main entry, 34-inch cut. White Ash (?) bed.	6153	B	1	5.70	2.18	86.13	5.99	.69	2.38	82.87	1.26	6.81	2.9	7,371	13,268	......	653
			2	......	2.31	91.34	6.35	.73	1.86	87.88	1.34	1.84	......	7,817	14,071		
			3	......	2.47	97.53	......	.78	1.99	93.84	1.43	1.96	......	8,347	15,025		
White Ash mine (old slope), 120 feet in main entry, 54-inch cut. White Ash bed.	6154	B	1	3.76	34.42	56.93	4.89	.57	5.70	75.36	1.15	12.33	1.4	7,488	13,478	......	653
			2	......	35.76	59.16	5.08	.59	5.49	78.30	1.19	9.35	......	7,781	14,006		
			3	......	37.67	62.33	......	.62	5.78	82.49	1.25	9.86	......	8,197	14,755		
SOCORRO COUNTY.																	
Carthage, Bernal mine, Carthage (5½-foot) bed (700 feet south, room 2 off right entry 1), 58¾-inch cut.	889D	A	1	3.35	39.44	49.85	7.36	.83	......	......	......	......	1.3	......	......	5	653
			2	......	40.80	51.58	7.62	.86	......	......	......	......	......	......	......		
			3	......	44.17	55.83	......	.93	......	......	......	......	......	......	......		
Same (870 feet south, left dip 2, 58½-inch cut)...	890D	A	1	3.91	38.87	46.82	10.40	.70	......	......	......	......	2.1	7,079	12,742	5	653
			2	......	40.44	48.74	10.82	.73	......	......	......	......	......	7,367	13,261		
			3	......	45.35	54.65	......	.82	......	......	......	......	......	8,261	14,870		
Same (run of mine)...........................	972D	C	1	2.96	37.20	45.12	14.72	.79	4.78	67.73	1.26	10.72	6.0	6,786	12,215	5	......
			2	......	38.33	46.50	15.17	.81	4.59	69.80	1.30	8.83	......	6,993	12,587		
			3	......	45.18	54.82	......	.95	5.42	82.28	1.54	9.81	......	8,243	14,838		
NE. ¼ NE. ¼ sec. 15, T. 5 S., R. 2 E., Hilton mine, Carthage bed, 5-foot cut.	6004	B	1	3.03	38.03	51.56	7.38	.92	5.44	73.27	1.13	11.86	1.4	7,369	13,264	381	654
			2	......	39.22	53.17	7.61	.95	5.26	75.56	1.17	9.45	......	7,599	13,678		
			3	......	42.45	57.55	......	1.03	5.69	81.79	1.27	10.22	......	8,225	14,805		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
NORTH DAKOTA.																	
BILLINGS COUNTY.																	
Beach, 8 miles north of; NW. ¼ sec. 16, T. 141 N., R. 105 W., open pit, 109-inch bed, 83-inch cut. "E" bed.	5779	B	1	34.50	29.76	28.53	7.21	0.99	......	......	......	......	21.0	3,730	6,714	341	654
			2	......	45.43	43.56	11.01	1.51	......	......	......	......	......	5,694	10,249		
			3	......	51.05	48.95	......	1.70	......	......	......	......	......	6,398	11,516		
9 miles north of; NW. ¼ sec. 8, T. 141 N., R. 105 W., open pit, 6½-foot cut. "E" bed.	5781	B	1	35.72	31.88	23.54	8.86	1.53	......	......	......	......	23.3	3,538	6,368	341	655
			2	......	49.60	36.62	13.78	2.38	......	......	......	......	......	5,504	9,907		
			3	......	57.53	42.47	......	2.76	......	......	......	......	......	6,384	11,491		
9 miles southeast of; sec. 25, T. 139 N., R. 105 W., open pit; 7-foot cut. "F" bed.	5782	B	1	35.40	38.25	20.71	5.64	.84	......	......	......	......	17.0	3,781	6,806	341	656
			2	......	59.21	32.06	8.73	1.30	......	......	......	......	......	5,853	10,535		
			3	......	64.86	35.14	......	1.42	......	......	......	......	......	6,411	11,540		
Medora, sec. 26, T. 140 N., R. 102 W., outcrop of 9½-foot bed, 8½-foot cut, 30 feet from mouth of drift. "C" bed.	2428	B	1	38.45	28.02	27.84	5.69	.54	......	......	......	......	31.4	......	......	341	656
			2	......	45.52	45.24	9.24	.88	......	......	......	......	......	......	......		
			3	......	50.16	49.84	......	.97	......	......	......	......	......	......	......		
Sand Creek, 8 miles northwest of post office, Stillwagon (Russell) ranch, sec. 31, T. 135 N., R. 101 W., outcrop of 43½-foot bed, 35-foot cut.	2000	B	1	43.78	26.07	26.33	3.82	.61	......	......	......	......	35.3	3,318	5,972	285	656
			2	......	46.37	46.84	6.79	1.09	......	......	......	......	......	5,902	10,624		
			3	......	49.75	50.25	......	1.16	......	......	......	......	......	6,332	11,398		
Sentinel Butte, about 3 miles south of post office, SE. ¼ sec. 5, T. 139 N., R. 104 W., outcrop of 21½-foot bed, 20-foot 11-inch cut. "G" bed.	2427	B	1	29.78	32.31	31.35	6.56	.88	......	......	......	......	22.4	......	......	341	657
			2	......	46.01	44.65	9.34	1.25	......	......	......	......	......	......	......		
			3	......	50.74	49.26	......	1.38	......	......	......	......	......	......	......		
3 miles south of post office, SE. ¼ sec. 5, T. 139 N., R. 104 W., open pit, bed 21 feet 2 inches, cut 14 feet. "F" bed.	5784	B	1	43.51	25.23	24.87	6.39	1.04	......	......	......	......	32.6	3,230	5,814	341	658
			2	......	44.67	44.02	11.31	1.84	......	......	......	......	......	5,718	10,292		
			3	......	50.37	49.63	......	2.07	......	......	......	......	......	6,447	11,605		
BOWMAN COUNTY.																	
Scranton, Scranton mine (700 feet east of opening, butt entry 2, Upper bed, 8½-foot cut).	7499	A	1	41.43	23.86	28.45	6.26	.74	......	......	......	......	36.04	3,467	6,241	14	658
			2	......	40.74	48.57	10.69	1.26	......	......	......	......	......	5,920	10,656		
			3	......	45.62	54.38	......	1.41	......	......	......	......	......	6,629	11,932		
Same (450 feet north of opening, main entry, 10-foot 10-inch cut).	7500	A	1	40.49	24.12	26.90	8.49	.70	......	......	......	......	34.8	......	......	......	658
			2	......	40.53	45.20	14.27	1.18	......	......	......	......	......	......	......		
			3	......	47.28	52.72	......	1.38	......	......	......	......	......	......	......		
M'KENZIE COUNTY.																	
Cartwright, 3 miles southeast of; sec. 3, T. 150 N., R. 103 W., outcrop of 7-foot 10-inch bed.	2201	B	1	28.09	37.78	27.86	6.27	.72	......	......	......	......	10.1	......	......	285	659
			2	......	52.54	38.74	8.72	1.00	......	......	......	......	......	......	......		
			3	......	57.56	42.45	......	1.10	......	......	......	......	......	......	......		

M'LEAN COUNTY.																	
Wilton, 1 mile east of; Wilton (Washburn) mine, 9½-foot bed, 6½-foot cut (sample 1 *a*).	1935	A	1	40.53	27.05	27.37	5.05	.76	......	......	......	......	32.3	3,691	6,644	290	659
			2	......	45.48	46.03	8.49	1.28	......	......	......	......	......	6,206	11,171	381	
			3	......	49.70	50.30	......	1.40	......	......	......	......	......	6,783	12,209	18	
Same (room 36, off east entry 1, north side, 3,300 feet from foot of shaft, 5½-foot cut, sample 2 *a*).	1938	A	1	41.88	26.11	26.73	5.28	.96	......	......	......	......	33.5	......	......	290	659
			2	......	44.92	46.00	9.08	1.65	......	......	......	......	......	......	......	28	
			3	......	49.41	50.59	......	1.81	......	......	......	......	......	......	......		
Same (lump lignite)	2243	C	1	35.96	31.92	24.37	7.75	1.15	6.54	41.43	1.21	41.92	12.7	3,927	7,069	290	......
			2	......	49.84	38.06	12.10	1.80	3.97	64.69	1.89	15.55	......	6,132	11,038		
			3	......	56.71	43.29	......	2.04	4.51	73.61	2.15	17.69	......	6,976	12,557		
			4	......	......	......	......	......	4.61	75.13	2.19	18.07	......	7,075	12,735		
MORTON COUNTY.																	
Howe, 8 miles east of; 7½ miles north of Morristown, S. Dak., NE. ¼ sec. 5, T. 129 N., R. 88 W., outcrop, 26-inch cut.	7841	B	1	32.07	25.64	31.65	10.64	1.19	......	......	......	......	19.3	3,790	6,822	......	660
			2	......	37.75	46.59	15.66	1.75	......	......	......	......	......	5,579	10,042		
			3	......	44.76	55.24	......	2.07	......	......	......	......	......	6,615	11,907		
9 miles east of; 6½ miles north of Morristown, S. Dak., SE. ¼ sec. 4, T. 129 N., R. 88 W., outcrop, 2½-foot cut.	7842	B	1	32.47	27.11	34.61	5.81	.37	......	......	......	......	23.1	4,028	7,250	......	660
			2	......	40.14	51.26	8.60	.55	......	......	......	......	......	5,965	10,737		
			3	......	43.92	56.08	......	.59	......	......	......	......	......	6,526	11,747		
13 miles east of; 8 miles northeast of Morristown, S. Dak., SW. ¼ sec. 12, T. 129 N., R. 88 W., on Cedar Creek near old Black Hills trail ford, exposure in creek bank, 3-foot cut.	7839	B	1	33.12	25.53	36.05	5.30	.69	......	......	......	......	21.1	4,148	7,466	......	660
			2	......	38.17	53.91	7.92	1.03	......	......	......	......	......	6,202	11,164		
			3	......	41.45	58.55	......	1.12	......	......	......	......	......	6,735	12,123		
STARK COUNTY.																	
Lehigh, Lehigh mine (second south entry, 1,900 feet from mouth, 5-foot cut).	1971	A	1	42.06	24.55	25.73	7.66	1.13	......	......	......	......	35.6	3,421	6,158	290	660
			2	......	42.37	44.41	13.22	1.95	......	......	......	......	......	5,904	10,627	*48*	
			3	......	48.82	51.18	......	2.25	......	......	......	......	......	6,804	12,247	18	
Same (first north entry, 2,100 feet from mouth, 6½-foot cut).	1972	A	1	42.81	26.84	23.93	6.42	.96	......	......	......	......	33.9	......	......	90	660
			2	......	46.93	41.84	11.23	1.68	......	......	......	......	......	......	......	*48*	
			3	......	52.87	47.13	......	1.89	......	......	......	......	......	......	......	28	
Same (screened coal, Storrs shipment)	1279	C	1	35.38	29.59	25.68	9.35	1.55	6.61	40.23	.54	41.72	23.6	3,846	6,923	261	......
			2	......	45.79	39.74	14.47	2.40	4.15	62.26	.84	15.88	......	5,952	10,714	*48*	
			3	......	53.54	46.46	......	2.80	4.85	72.79	.98	18.58	......	6,959	12,526	14	
			4	......	......	......	......	......	4.99	74.88	1.01	19.12	......	7,094	12,769		
Same (run of mine, later shipment)	2289	C	1	32.64	29.19	26.75	11.42	3.54	6.15	39.53	.49	38.87	10.4	3,872	6,970	290	......
			2	......	43.34	39.71	16.95	5.26	3.74	58.69	.73	14.63	......	5,748	10,346		
			3	......	52.19	47.81	......	6.33	4.50	70.66	.88	17.63	......	6,922	12,460		
Same (north entry 6, 3,300 feet from mouth, upper 7-foot bed).	7537	A	1	42.04	23.40	27.67	6.89	.68	......	......	......	......	37.8	3,377	6,079	14	660
			2	......	40.37	47.74	11.89	1.17	......	......	......	......	......	5,826	10,487		
			3	......	45.82	54.18	......	1.33	......	......	......	......	......	6,612	11,902		
Same (south entry 4, 3,000 feet from mouth, upper 7-foot bed).	7538	A	1	42.34	22.20	29.68	5.78	.35	......	......	......	......	38.5	......	......	......	660
			2	......	38.50	51.48	10.02	.61	......	......	......	......	......	......	......		
			3	......	42.79	57.21	......	.68	......	......	......	......	......	......	......		
WARD COUNTY.																	
Tasker (Vanderwalker station), McClure mine (2,700 feet west, room 5 off west entry 5, Upper 65¼-inch bed).	7587	A	1	36.64	22.64	30.74	9.98	.45	......	......	......	......	28.9	3,552	6,394	14	660
			2	......	35.73	48.52	15.75	.71	......	......	......	......	......	5,606	10,091		
			3	......	42.41	57.59	......	.84	......	......	......	......	......	6,654	11,977		
Same (2,000 feet north, room 2, off north entry 6, Upper 69-inch bed).	7589	A	1	37.18	23.29	28.91	10.62	.55	......	......	......	......	29.3	......	......	......	660
			2	......	37.07	46.03	16.90	.88	......	......	......	......	......	......	......		
			3	......	44.61	55.39	......	1.06	......	......	......	......	......	......	......		

a Samples 1 and 2 from widely separated points in same mine.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
NORTH DAKOTA—Continued.																	
WILLIAMS COUNTY.																	
Williston, 3 miles northeast of; sec. 8, T. 154 N., R. 100 W., Williston mine, project of U. S. Reclamation Service (250 feet east of entrance, Middle bed, 84-inch cut).	5470	A	1	36.60	32.93	25.69	4.78	0.48	......	......	......	......	12.0	3,791	6,824	......	661
			2	......	51.94	40.52	7.54	.76	......	......	......	......	......	5,979	10,762		
			3	......	56.17	43.83	......	.82	......	......	......	......	......	6,459	11,626		
3½ miles southeast of; T. 154 N., R. 100 W., Black Diamond mine (main entry, Middle (6-foot) bed).	5469	A	1	38.92	32.74	24.32	4.02	.27	......	......	......	......	12.7	3,709	6,676	......	662
			2	......	53.60	39.82	6.58	.44	......	......	......	......	......	6,072	10,930		
			3	......	57.37	42.63	......	.47	......	......	......	......	......	6,499	11,698		
Same (room 3 off west entry 1, south entry 1, Upper (79½-inch) bed).	7600	A	1	42.32	24.22	28.73	4.73	.35	......	......	......	......	35.8	3,483	6,269	......	662
			2	......	41.99	49.81	8.20	.61	......	......	......	......	......	6,038	10,868		
			3	......	45.74	54.26	......	.66	......	......	......	......	......	6,577	11,839		
4 miles southeast of; mine at mouth of Cedar Coulee (150 feet from opening, 6-foot cut).	1730	A	1	41.13	27.17	26.34	5.36	.72	......	......	......	......	33.1	3,603	6,485	290	662
			2	......	46.15	44.74	9.11	1.22	......	......	......	......	......	6,120	11,016	48	
			3	......	50.77	49.23	......	1.34	......	......	......	......	......	6,733	12,119	18	
Same (screened coal, owner's shipment)	1416	C	1	36.78	28.16	29.97	5.09	.48	6.93	41.87	.69	44.94	24.1	4,002	7,204	261	......
			2	......	44.54	47.41	8.05	.76	4.49	66.23	1.09	19.38	......	6,330	11,394	48	
			3	......	48.44	51.56	......	.83	4.89	72.08	1.19	21.06	......	6,885	12,393		
			4	......	......	......	......	......	4.93	72.63	1.20	21.24	......	6,923	12,461		
Same (run of mine, Reclamation Service shipment).	2365	C	1	36.13	29.28	29.55	5.04	.59	6.60	42.00	.73	45.04	17.3	4,070	7,326	290	......
			2	......	45.84	46.26	7.90	.92	4.05	65.77	1.14	20.22	......	6,374	11,473		
			3	......	49.77	50.23	......	1.00	4.40	71.39	1.24	21.97	......	6,918	12,452		
			4	......	......	......	......	......	4.45	72.12	1.25	22.18	......	6,966	12,539		
Same (run of mine)	4276	C	1	38.92	25.54	30.15	5.39	.48	6.89	39.34	.68	47.22	31.7	3,744	6,739	......	......
			2	......	41.81	49.37	8.82	.79	4.21	64.41	1.11	20.66	......	6,130	11,034		
			3	......	45.86	54.14	......	.86	4.61	70.64	1.22	22.67	......	6,723	12,101		
OHIO.																	
BELMONT COUNTY.																	
Bellaire, Empire No. 1 mine, No. 8 bed (sample 1,[a] room 3, off west entry 4, 60½-inch cut).	3987	A	1	3.32	40.80	49.11	6.77	3.55	......	......	......	......	1.2	......	......	332	663
			2	......	42.20	50.80	7.00	3.67	......	......	......	......	......	......	......	18	
			3	......	45.38	54.62	......	3.95	......	......	......	......	......	......	......	28	
Same (room 24, off entry 10, sample 2,[a] 58½-inch cut).	3988	A	1	3.10	40.76	50.11	6.03	3.42	......	......	......	......	1.1	7,553	13,595	332	663
			2	......	42.06	51.72	6.22	3.53	......	......	......	......	......	7,795	14,031		
			3	......	44.85	55.15	......	3.76	......	......	......	......	......	8,312	14,962		

Same (run of mine)	4151	C	1	4.14	39.30	47.18	9.38	3.96	5.19	69.58	1.20	10.69	2.6	7,152	12,874	332	.....
			2	.....	41.00	49.21	9.79	4.13	4.93	72.59	1.25	7.31	.....	7,461	13,430		
			3	.....	45.45	54.55	.....	4.58	5.47	80.46	1.39	8.10	.....	8,271	14,888		
Same (run of mine)	4178	C	1	2.97	37.61	49.45	9.97	3.65	5.14	70.21	1.23	9.80	1.3	7,185	12,935	332	.....
			2	.....	38.76	50.96	10.28	3.76	4.96	72.36	1.27	7.37	.....	7,405	13,329		
			3	.....	43.20	56.80	.....	4.19	5.52	80.65	1.41	8.23	.....	8,253	14,855		
Bethesda, 1 mile northwest of; Badgertown mine, Meigs Creek bed, 61½-inch cut.	4053	B	1	4.23	36.41	47.91	11.45	3.16	.....	.....	.....	.....	1.8	.....	.....	.....	663
			2	.....	38.02	50.02	11.96	3.30	.....	.....	.....	.....	.....	.....	.....		
			3	.....	43.18	56.82	.....	3.75	.....	.....	.....	.....	.....	.....	.....		
Flushing, 1 mile southeast of; Meigs Creek bed, 4-foot cut.	4054	B	1	4.63	33.84	52.50	9.03	2.18	.....	.....	.....	.....	1.7	.....	.....	.....	664
			2	.....	35.48	55.05	9.47	2.29	.....	.....	.....	.....	.....	.....	.....		
			3	.....	39.19	60.81	.....	2.53	.....	.....	.....	.....	.....	.....	.....		
2 miles southeast of; Black Oak mine, No. 8 bed (2,000 feet west of shaft, 48¼-inch cut).	3985	A	1	3.96	38.09	48.91	9.04	4.25	.....	.....	.....	.....	1.7	.....	.....	332	664
			2	.....	39.65	50.94	9.41	4.43	.....	.....	.....	.....	.....	.....	.....	18	
			3	.....	43.77	56.23	.....	4.89	.....	.....	.....	.....	.....	.....	.....	23	
Same (1,500 feet southwest of shaft, 59½-inch cut).	3986	A	1	4.13	39.22	48.69	7.96	4.15	.....	.....	.....	.....	1.9	7,271	13,088	332	664
			2	.....	40.91	50.79	8.30	4.30	.....	.....	.....	.....	.....	7,584	13,651		
			3	.....	44.61	55.39	.....	4.69	.....	.....	.....	.....	.....	8,271	14,888		
Same (lump, over 1¼-inch screen)	4157	C	1	3.44	36.04	47.58	12.94	4.32	4.81	66.64	1.17	10.12	1.6	6,826	12,287	332	.....
			2	....a.	37.32	49.28	13.40	4.47	4.59	69.01	1.22	7.31	.....	7,069	12,724		
			3	.....	43.10	56.90	.....	5.17	5.30	79.69	1.40	8.44	.....	8,163	14,693		
Neffs, Neff mine No. 1, No. 8 bed (room 12, off east entry 4, 2,000 feet southeast of drift mouth, 60-inch cut).	2095	A	1	3.99	38.77	49.17	8.07	3.49	.....	.....	.....	.....	1.8	7,279	13,102	290	665
			2	.....	40.38	51.22	8.40	3.64	.....	.....	.....	.....	.....	7,582	13,648	18	
			3	.....	44.08	55.92	.....	3.97	.....	.....	.....	.....	.....	8,277	14,899	23	
Same (room 3, off west entry 2, 1,000 feet southwest of drift mouth, 68¾-inch cut).	2096	A	1	4.06	39.45	50.05	6.44	3.35	.....	.....	.....	.....	1.8	.....	.....	290	665
			2	.....	41.12	52.17	6.71	3.49	.....	.....	.....	.....	.....	.....	.....	336	
			3	.....	44.08	55.92	.....	3.74	.....	.....	.....	.....	.....	.....	.....		
Same (run of mine)	2392	C	1	5.31	36.72	49.45	8.52	3.33	5.39	70.71	1.12	10.93	3.9	7,135	12,843	290	.....
			2	.....	38.78	52.22	9.00	3.52	5.07	74.68	1.18	6.55	.....	7,535	13,563		
			3	.....	42.61	57.39	.....	3.86	5.57	82.06	1.30	7.21	.....	8,280	14,904		
			4	.....	.....	.....	.....	.....	5.79	85.36	1.36	7.49	.....	8,522	15,340		
GUERNSEY COUNTY.																	
Danford, Forsythe mine, No. 7 bed (room 1, off east entry 16, 2,600 feet northwest of bottom of slope, 62¼-inch cut).	2090	A	1	6.28	35.81	50.61	7.30	3.55	.....	.....	.....	.....	2.6	7,056	12,701	290	666
			2	.....	38.21	54.00	7.79	3.79	.....	.....	.....	.....	.....	7,529	13,552	18	
			3	.....	41.44	58.56	.....	4.11	.....	.....	.....	.....	.....	8,164	14,695	23	
Same (room 22, off east entry 14, 3,700 feet northeast of bottom of slope, 70½-inch cut).	2091	A	1	5.80	36.89	50.73	6.58	2.62	.....	.....	.....	.....	2.2	.....	.....	290	666
			2	.....	39.16	53.85	6.99	2.78	.....	.....	.....	.....	.....	.....	.....	336	
			3	.....	42.10	57.90	.....	2.99	.....	.....	.....	.....	.....	.....	.....		
Same (lump, over 1¼-inch screen)	2656	C	1	6.65	33.94	48.86	10.55	3.13	5.30	67.38	1.20	12.44	2.6	6,766	12,179	290	.....
			2	.....	36.36	52.34	11.30	3.35	4.88	72.18	1.29	7.00	.....	7,248	13,046		
			3	.....	40.99	59.01	.....	3.78	5.51	81.37	1.45	7.89	.....	8,171	14,708		
			4	.....	.....	.....	.....	.....	5.72	84.58	1.51	8.19	.....	8,405	15,129		
HARRISON COUNTY.																	
Flushing (Belmont County), 2 miles north of; Meigs Creek bed, 55-inch cut.	4056	B	1	5.51	35.95	49.89	8.65	2.31	.....	.....	.....	.....	2.4	.....	.....	.....	666
			2	.....	38.05	52.80	9.15	2.44	.....	.....	.....	.....	.....	.....	.....		
			3	.....	41.88	58.12	.....	2.69	.....	.....	.....	.....	.....	.....	.....		

[a] Samples 1 and 2 from widely separated points in same mine.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.						Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Air-drying loss.	Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
OHIO—Continued.																	
HOCKING COUNTY.																	
Jobs, secs. 2 and 8, T. 13, R. 15, No. 2 mine, No. 6 (Middle Kittanning) bed, second break-through between rooms 3 and 4, off west entry 4, off south entry 3, 4,600 feet from drift mouth.	7712	(*a*)	1	9.72	32.44	53.41	4.43	0.54	5.70	69.50	1.25	18.58	5.5	6,804	12,247	......	667
			2	......	35.93	59.16	4.91	.60	5.12	76.99	1.38	11.00	......	7,537	13,567		
			3	......	37.78	62.22	......	.63	5.38	80.96	1.45	11.58	......	7,927	14,269		
Jackson, 5 miles west of; Decatur No. 1 mine, No. 1 bed (room 4, off left heading 3, 650 feet northwest of opening).	15188	A	1	13.60	31.75	50.42	4.23	.86	......	......	......	......	3.20	6,491	11,684	......	667
			2	......	36.75	58.36	4.90	.99	......	......	......	......	......	7,513	13,523		
			3	......	38.64	61.36	......	1.04	......	......	......	......	......	7,900	14,220		
Same (room 10, off left entry 1, 600 feet northwest of opening).	15189	A	1	12.77	31.51	47.94	7.78	.97	......	......	......	......	2.80	6,259	11,266	......	667
			2	......	36.12	54.96	8.92	1.11	......	......	......	......	......	7,175	12,915		
			3	......	39.66	60.34	......	1.22	......	......	......	......	......	7,878	14,180		
JACKSON COUNTY.																	
Wellston, 9 miles southeast of; No. 10 mine, No. 4 bed (room 16, off right entry 4, 1,400 feet southwest of entrance, 3½-foot cut).	1896	A	1	8.45	41.27	43.55	6.73	3.10	......	......	......	......	4.9	6,805	12,249	290	668
			2	......	45.08	47.57	7.35	3.39	......	......	......	......	......	7,433	13,379	336	
			3	......	48.65	51.35	......	3.66	......	......	......	......	......	8,023	14,441	23	
Same (room 17, off right entry 4, 1,400 feet northeast of entrance, 44½-inch cut).	1897	A	1	7.50	39.25	42.74	10.51	5.44	......	......	......	......	3.7	......	......	290	668
			2	......	42.43	46.21	11.36	5.88	......	......	......	......	......	......	......		
			3	......	47.87	52.13	......	6.63	......	......	......	......	......	......	......		
Same (run of mine)........................	2071	C	1	7.71	38.32	42.02	11.95	4.61	5.41	62.49	1.11	14.43	4.9	6,397	11,515	290	......
			2	......	41.52	45.53	12.95	4.99	4.93	67.71	1.20	8.22	......	6,931	12,476		
			3	......	47.70	52.30	......	5.74	5.66	77.78	1.38	9.44	......	7,962	14,332		
			4	......	......	......	......	......	6.01	82.50	1.47	10.02	......	8,310	14,958		
Same, No. 5 bed (room 5, off right entry 2, south side, 800 feet southwest of opening, 3-foot cut).	1898	A	1	9.38	36.74	46.26	7.62	4.08	......	......	......	......	5.6	6,610	11,898	290	668
			2	......	40.54	51.05	8.41	4.50	......	......	......	......	......	7,294	13,129	336	
			3	......	44.26	55.74	......	4.91	......	......	......	......	......	7,964	14,335	23	
Same (room 7, off right entry 4, north side, 800 feet northeast of opening, 31-inch cut).	1899	A	1	8.95	37.82	43.89	9.34	4.41	......	......	......	......	5.3	......	......	290	668
			2	......	41.54	48.20	10.26	4.84	......	......	......	......	......	......	......	336	
			3	......	46.29	53.71	......	5.39	......	......	......	......	......	......	......		
Same (run of mine)........................	2109	C	1	9.01	35.85	43.80	11.34	4.02	5.38	62.79	1.20	15.27	3.6	6,386	11,495	290	......
			2	......	39.40	48.14	12.46	4.42	4.81	69.01	1.32	7.98	......	7,018	12,632		
			3	......	45.01	54.99	......	5.05	5.50	78.83	1.51	9.11	......	8,018	14,432		
			4	......	......	......	......	......	5.79	83.02	1.59	9.60	......	8,323	14,981		
JEFFERSON COUNTY.																	
Bradley, Crow Hollow mine, No. 8 bed (room 9, off left entry 4, district 9, 3,000 feet northwest of tipple, 55½-inch cut).	1910	A	1	4.06	38.49	49.70	7.75	3.67	......	......	......	......	1.7	7,304	13,147	290	669
			2	......	40.12	51.80	8.08	3.82	......	......	......	......	......	7,613	13,703	336	
			3	......	43.65	56.35	......	4.16	......	......	......	......	......	8,282	14,908	18	

Same (room 17, off main entry 2, district 2, 53¼-inch cut).	1911	A	1	4.20	37.16	51.13	7.51	3.22	......	......	......	......	2.0	......	......	290	669
			2	......	38.79	53.37	7.84	3.36	......	......	......	......	......	......	......	336	
			3	......	42.09	57.91	......	3.65	......	......	......	......	......	......	......	28	
Same (over ¾-inch screen)	2083	C	1	3.53	37.45	49.90	9.12	3.47	5.15	71.66	1.31	9.29	1.4	7,262	13,072	290	......
			2	......	38.82	51.73	9.45	3.60	4.93	74.28	1.36	6.38	......	7,528	13,550		
			3	......	42.87	57.13	......	3.97	5.45	82.04	1.50	7.04	......	8,314	14,965		
			4	......	......	......	......	......	5.67	85.43	1.56	7.34	......	8,565	15,417	48	
Brilliant, Pittsburgh bed	1577	B	1	5.27	34.87	49.16	10.70	3.07	......	......	......	......	2.9	......	......	......	669
			2	......	36.81	51.90	11.29	3.24	......	......	......	......	......	......	......		
			3	......	41.50	58.50	......	3.65	......	......	......	......	......	......	......		
Georges Run, at mouth of: 1 mile west of Ohio River, Waugh's country bank, Pittsburgh bed, 5-foot (entire bed) cut.	1576	B	1	6.55	34.48	50.36	8.61	2.52	......	......	......	......	3.8	......	......	......	670
			2	......	36.90	53.89	9.21	2.70	......	......	......	......	......	......	......		
			3	......	40.64	59.36	......	2.97	......	......	......	......	......	......	......		
Island Creek, 1 mile west of Ohio River, country bank, Finley bed, 49½-inch cut.	1574	B	1	3.89	36.46	52.25	7.40	3.63	......	......	......	......	1.9	......	......	......	670
			2	......	37.94	54.36	7.70	3.78	......	......	......	......	......	......	......		
			3	......	41.10	58.90	......	4.10	......	......	......	......	......	......	......		
New Alexandria, 1 mile north of; Scott's country bank, Pittsburgh bed.	1575	B	1	5.19	34.69	50.67	9.45	2.38	......	......	......	......	2.8	......	......	48	670
			2	......	36.59	53.44	9.97	2.51	......	......	......	......	......	......	......		
			3	......	40.64	59.36	......	2.79	......	......	......	......	......	......	......		
Rush Run, Rush Run No. 1 mine, Pittsburgh (or No. 8) bed (off left entry 1, 2,400 feet southeast of drift mouth, 51¼-inch cut).	1944	A	1	4.69	35.57	53.73	6.01	1.54	......	......	......	......	2.4	7,403	13,325	290	670
			2	......	37.32	56.37	6.31	1.62	......	......	......	......	......	7,767	13,981	336	
			3	......	39.83	60.17	......	1.73	......	......	......	......	......	8,290	14,922	18	
Same (room 17, off entry 3, 2,600 feet south of drift mouth, 50¾-inch cut).	1945	A	1	4.99	35.33	53.98	5.70	.95	......	......	......	......	2.2	......	......	290	670
			2	......	37.18	56.82	6.00	1.00	......	......	......	......	......	......	......	336	
			3	......	39.55	60.45	......	1.06	......	......	......	......	......	......	......	28	
Same (over ¾-inch screen)	2062	C	1	4.34	35.53	52.83	7.30	1.72	5.21	72.65	1.42	11.70	2.4	7,321	13,178	290	......
			2	......	37.14	55.23	7.63	1.80	4.94	75.95	1.48	8.20	......	7,653	13,775		
			3	......	40.21	59.79	......	1.95	5.35	82.22	1.61	8.87	......	8,285	14,913		
			4	......	......	......	......	......	5.46	83.85	1.64	9.05	......	8,405	15,129		
PERRY COUNTY.																	
Dixie, Dixie mine, No. 6 bed (first pair of east entries, 1,000 feet southeast of drift mouth, 35¼-inch cut).	2119	A	1	8.92	38.58	46.65	5.85	3.00	......	......	......	......	3.8	6,849	12,328	290	671
			2	......	42.36	51.22	6.42	3.29	......	......	......	......	......	7,520	13,536	336	
			3	......	45.27	54.73	......	3.52	......	......	......	......	......	8,036	14,465	18	
Same (first pair of west entries, 1,000 feet southwest of drift mouth, 36¼-inch cut).	2120	A	1	8.87	39.32	47.81	4.00	1.74	......	......	......	......	3.7	......	......	290	671
			2	......	43.15	52.46	4.39	1.92	......	......	......	......	......	......	......	336	
			3	......	45.13	54.87	......	2.01	......	......	......	......	......	......	......	28	
Same (run of mine)	2559	C	1	7.55	38.00	46.08	8.37	2.84	5.48	67.02	1.29	15.00	4.5	6,738	12,128	290	......
			2	......	41.10	49.85	9.05	3.07	5.02	72.50	1.40	8.96	......	7,288	13,118		
			3	......	45.19	54.81	......	3.38	5.52	79.71	1.52	9.87	......	8,013	14,423		
			4	......	......	......	......	......	5.71	82.49	1.59	10.21	......	8,160	14,688		
Shawnee, Gosline & Barbour mine, No. 6 bed (main entry, 500 feet northeast of drift mouth, 59-inch cut).	1900	A	1	10.78	34.86	48.23	6.13	1.11	......	......	......	......	6.6	6,663	11,993	290	672
			2	......	39.07	54.06	6.87	1.24	......	......	......	......	......	7,468	13,442	336	
			3	......	41.95	58.05	......	1.33	......	......	......	......	......	8,019	14,434	18	
Same (seventh entry, 300 feet northeast of drift mouth, 58¾-inch cut).	1901	A	1	9.79	35.74	48.46	6.01	1.43	......	......	......	......	5.2	......	......	290	672
			2	......	39.62	53.72	6.66	1.59	......	......	......	......	......	......	......	336	
			3	......	42.45	57.55	......	1.70	......	......	......	......	......	......	......	28	
Same (run of mine)	2144	C	1	9.90	33.66	44.86	11.58	1.81	5.28	63.06	1.23	17.04	3.9	6,265	11,277	290	......
			2	......	37.36	49.79	12.85	2.01	4.64	69.99	1.37	9.14	......	6,954	12,517		
			3	......	42.87	57.13	......	2.31	5.32	80.31	1.57	10.49	......	7,979	14,362		
			4	......	......	......	......	......	5.45	82.20	1.60	10.75	......	8,113	14,603		

[a] Sample taken according to standard method of Bureau of Mines but not by Bureau of Mines or United States Geological Survey.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
OHIO—Continued.																	
TUSCARAWAS COUNTY.																	
Mineral City, one-fourth mile south of; Huff mine, No. 5 bed (7,000 feet southeast of opening, 35-inch cut).	3968	A	1	5.61	36.25	49.42	8.72	2.89	......	......	......	......	1.3	......	......	332	673
			2	......	38.40	52.36	9.24	3.06	......	......	......	......	......	......	......	18	
			3	......	42.31	57.69	......	3.37	......	......	......	......	......	......	......	28	
Same (6,600 feet southeast of opening, 41¾-inch cut).	3969	A	1	4.46	39.89	47.11	8.54	3.73	......	......	......	......	1.1	7,136	12,845	332	673
			2	......	41.75	49.31	8.94	3.90	......	......	......	......	......	7,469	13,444	18	
			3	......	45.85	54.15	......	4.28	......	......	......	......	......	8,202	14,764	28	
Same (lump, over 1¼-inch bar screen)	4059	C	1	4.49	40.55	47.43	7.53	2.93	5.68	69.64	1.29	12.93	2.3	7,199	12,958	332	......
			2	......	42.46	49.66	7.88	3.07	5.42	72.91	1.35	9.37	......	7,537	13,567		
			3	......	46.09	53.91	......	3.33	5.89	79.15	1.47	10.16	......	8,182	14,728		
VINTON COUNTY.																	
Clarion, Clarion mine, No. 4 bed (room 6, off east entry 4, 900 feet northeast of drift mouth, 43-inch cut).	2208	A	1	6.79	40.01	45.54	7.66	3.34	......	......	......	......	2.8	6,952	12,514	290	673
			2	......	42.92	48.86	8.22	3.58	......	......	......	......	......	7,458	13,424	336	
			3	......	46.77	53.23	......	3.90	......	......	......	......	......	8,126	14,627	18	
Same (butt entry 5, off main entry, 800 feet west of drift mouth, 40¾-inch cut).	2209	A	1	7.38	41.60	44.86	6.16	2.77	......	......	......	......	3.4	......	......	290	673
			2	......	44.92	48.43	6.65	2.99	......	......	......	......	......	......	......	336	
			3	......	48.12	51.88	......	3.20	......	......	......	......	......	......	......	28	
Same (lump, over 1¼-inch screen)	2310	C	1	5.59	36.86	49.26	8.29	3.15	4.88	69.76	1.18	12.74	3.2	7,096	12,773	290	......
			2	......	39.04	52.18	8.78	3.34	4.51	73.89	1.25	8.23	......	7,516	13,529		
			3	......	42.80	57.20	......	3.66	4.95	81.01	1.37	9.01	......	8,240	14,832		
			4	......	......	......	......	......	5.13	84.07	1.42	9.38	......	8,467	15,241		
Same (nut and slack, through 1¼-inch screen)	2311	C	1	8.10	36.87	43.10	11.93	3.35	5.15	63.54	1.06	14.97	5.6	6,424	11,563	290	......
			2	......	40.12	46.90	12.98	3.65	4.62	69.14	1.15	8.46	......	6,990	12,582		
			3	......	46.11	53.89	......	4.19	5.31	79.46	1.33	9.71	......	8,033	14,459		
OKLAHOMA.																	
COAL COUNTY.																	
Coalgate, McAlester bed, slack, 4 tons	1596	C	1	8.03	31.28	41.40	19.29	3.20	......	......	......	......	3.5	......	......	261	......
			2	......	34.01	45.02	20.97	3.48	......	......	......	......	......	......	......	*48*	
			3	......	43.03	56.97	......	4.40	......	......	......	......	......	......	......		
Lehigh, No. 7 mine, McAlester bed, slack and pea mixed, 20 tons.	1481	C	1	8.29	30.61	36.05	25.05	3.95	4.37	50.98	1.19	14.46	2.7	5,061	9,110	261	......
			2	......	33.38	39.31	27.31	4.31	3.76	55.59	1.30	7.73	......	5,519	9,934	*48*	
			3	......	45.92	54.08	......	5.93	5.18	76.48	1.79	10.62	......	7,593	13,667		

½ mile north of; No. 5 mine, McAlester bed (south entry 8, slope 5, 4-foot cut).	1150	A	1	5.29	37.54	45.04	12.13	3.77	....	....	....	....	1.6	....	....	260	674
			2	....	39.64	47.55	12.81	3.98	....	....	....	....	....	....	....	*48*	
			3	....	45.46	54.54	....	4.56	....	....	....	....	....	....	....		
Same (north entry 3, south slope, 58-inch cut)..	1151	A	1	6.50	39.01	45.18	9.31	3.67	....	....	1.29	....	1.9	6,579	11,842	260	674
			2	....	41.72	48.32	9.96	3.93	....	....	1.38	....	....	7,036	12,665	*48*	
			3	....	46.33	53.67	....	4.36	....	....	1.53	....	....	7,815	14,067		
Same (lump, over 1-inch screen, 5 tons, sample 1).	1470	C	1	6.24	37.26	43.29	13.21	3.96	4.93	62.34	1.36	14.20	1.4	6,238	11,228	261	......
			2	....	39.74	46.17	14.09	4.22	4.52	66.49	1.45	9.23	....	6,653	11,975	*48*	
			3	....	46.26	53.74	....	4.92	5.26	77.40	1.69	10.73	....	7,744	13,939		
Same (lump, sample 2)......................	1603	C	1	8.35	35.50	43.58	12.57	3.79	....	....	....	....	5.0	....	....	*48*	......
			2	....	38.73	47.55	13.72	4.14	....	....	....	....	....	....	....		
			3	....	44.89	55.11	....	4.80	....	....	....	....	....	....	....		
1½ miles southeast of; Lehigh No. 8 mine, McAlester bed, room 19, north entry 3, 2,000 feet northwest of shaft, 48-inch cut.	10054	A	1	7.07	36.41	45.68	10.84	3.64	5.13	64.38	1.44	14.57	3.0	6,371	11,468	260	675
			2	....	39.18	49.16	11.66	3.92	4.68	69.28	1.55	8.91	....	6,856	12,341		
			3	....	44.35	55.65	....	4.44	5.30	78.42	1.75	10.09	....	7,761	13,970		
HASKELL COUNTY.																	
Chant, ½ mile east of; San Bois No. 2 mine, south entry 10, 2,700 feet southeast of opening, 78-inch cut. McCurtain (Hartshorne) bed.	10057	A	1	2.37	19.26	69.54	8.83	1.03	4.57	79.39	1.55	4.63	1.9	7,689	13,840	260	675
			2	....	19.73	71.23	9.04	1.05	4.41	81.32	1.59	2.59	....	7,876	14,177		
			3	....	21.69	78.31	....	1.15	4.85	89.40	1.75	2.85	....	8,659	15,586		
LATIMER COUNTY.																	
Hughes, SE. ¼ sec. 33, T. 6 N., R. 22 E., Turkey Creek mine, McAlester bed. 2½-foot cut.	1817	B	1	2.54	31.58	54.15	11.73	3.16	....	....	....	....	1.2	....	....	260	676
			2	....	32.40	56.56	12.04	3.24	....	....	....	....	....	....	....		
			3	....	36.84	63.16	....	3.68	....	....	....	....	....	....	....		
Lutie, sec. 11, T. 5 N., R. 19 E., Hailey-Ola mine, Lower Hartshorne bed, 65-inch cut.	1818	B	1	3.90	34.76	54.74	6.60	2.27	....	....	....	....	2.3	....	....	260	676
			2	....	36.17	56.96	6.87	2.36	....	....	....	....	....	....	....		
			3	....	38.84	61.16	....	2.53	....	....	....	....	....	....	....		
Wilburton, sec. 10, T. 5 N., R. 19 E., No. 2 mine, Upper Hartshorne bed, 50-inch cut.	1769	B	1	2.81	36.54	55.45	5.20	.85	....	....	....	....	.7	....	....	260	676
			2	....	37.60	57.05	5.35	.87	....	....	....	....	....	....	....		
			3	....	39.72	60.28	....	.92	....	....	....	....	....	....	....		
1 mile west of; sec. 8, T. 5 N., R. 19 E., No. 7 mine (Lower Hartshorne bed, 46-inch cut.)	1771	B	1	3.42	37.81	53.33	5.44	1.84	....	....	....	....	1.5	....	....	260	677
			2	....	39.15	55.22	5.63	1.91	....	....	....	....	....	....	....		
			3	....	41.49	58.51	....	2.02	....	....	....	....	....	....	....		
Same, No. 6 mine (Upper Hartshorne bed, 50-inch cut)	1770	B	1	2.96	35.97	55.95	5.12	1.05	....	....	....	....	1.9	7,615	13,707	260	677
			2	....	37.07	57.65	5.28	1.08	....	....	....	....	....	7,847	14,125		
			3	....	39.13	60.87	....	1.14	....	....	....	....	....	8,284	14,911		
LA FLORE COUNTY.																	
Howe, 2 miles south of; S. ½ sec. 2, T. 5 N., R. 25 E., Mexican Gulf mine, Lower Hartshorne bed, 45-inch cut.	1815	B	1	5.09	15.79	72.52	6.60	.69	....	....	....	....	4.4	....	....	260	677
			2	....	16.64	76.41	6.95	.73	....	....	....	....	....	....	....		
			3	....	17.88	82.12	....	.78	....	....	....	....	....	....	....		
Hughes (Latimer County), 1 mile southwest of; No. 2 mine[a]; room 20, west entry 4, northwest of slope mouth, 42½-inch cut.	10065	B	1	3.13	31.72	58.89	6.26	.86	5.50	78.07	1.81	7.50	2.4	7,790	14,022	260	677
			2	....	32.74	60.80	6.46	.89	5.32	80.59	1.87	4.87	....	8,042	14,476		
			3	....	35.00	65.00	....	.95	5.69	86.16	2.00	5.20	....	8,598	15,476		
2 miles southwest of; E. ½ sec. 4, T. 5 N., R. 22 E., Lower Hartshorne bed, 46-inch cut.	1816	B	1	4.03	28.97	63.45	3.55	1.05	....	....	....	....	3.0	7,951	14,312	260	677
			2	....	30.19	66.11	3.70	1.09	....	....	....	....	....	8,285	14,913		
			3	....	31.35	68.65	....	1.13	....	....	....	....	....	8,603	15,485		
Panama, run of mine (uninspected)...................	4020	C	1	5.11	13.65	73.21	8.03	1.18	4.65	78.37	1.60	6.17	4.5	7,590	13,662	332	......
			2	....	14.39	77.15	8.46	1.24	4.30	82.59	1.69	1.72	....	7,999	14,398		
			3	....	15.72	84.28	....	1.36	4.70	90.23	1.84	1.87	....	8,738	15,728		

[a] Lower Hartshorne bed.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
OKLAHOMA—Continued.																	
OKMULGEE COUNTY.																	
Henryetta, No. 1 mine, Henryetta bed (southeast entry, 38-inch cut).	1059	A	1	8.87	34.82	47.68	8.63	1.62			1.37		5.0	6,720	12,096	260	677
			2		38.21	52.32	9.47	1.78			1.50			7,374	13,273	*48*	
			3		42.21	57.79		1.97			1.66			8,145	14,661		
Same (northeast entry, 35½-inch cut)	1060	A	1	6.77	36.25	51.30	5.68	1.36					3.1			260	677
			2		38.88	55.03	6.09	1.46								*48*	
			3		41.40	58.60		1.55									
Same (lump and slack, 40 tons)	1138	C	1	7.04	34.55	48.40	10.01	1.92	5.34	67.55	1.25	13.93	3.3	6,779	12,202	261	
			2		37.17	52.06	10.77	2.07	4.91	72.66	1.34	8.25		7,292	13,126	*48*	
			3		41.65	58.34		2.31	5.50	81.43	1.50	9.26		8,172	14,711		
4¾ miles west of; Victoria No. 1 mine (west entry 1, 200 feet from shaft, 33½-inch cut). Henryetta bed.	10178	A	1	7.13	33.59	53.04	6.24	1.48					2.6	7,147	12,865	260	678
			2		36.17	57.11	6.72	1.59						7,696	13,853		
			3		38.77	61.23		1.70						8,250	14,850		
Same (main east entry, 34-inch cut)	10177	A	1	7.50	32.89	50.97	8.64	1.47					2.6	6,894	12,409	260	678
			2		35.56	55.10	9.34	1.59						7,453	13,415		
			3		39.23	60.77		1.75						8,221	14,798		
PITTSBURG COUNTY.																	
Buck, Buck No. 6 mine, Lower Hartshorne bed (in room 16, off main north level, 600 feet north of shaft, 53-inch cut).	2645	A	1	3.55	34.01	54.88	7.56	1.22					2.4	7,546	13,583	260	679
			2		35.26	56.90	7.84	1.26						7,824	14,083		
			3		38.26	61.74		1.37						8,491	15,282		
Same (in room 2 from first south plane, 400 feet south of shaft, 48-inch cut).	2646	A	1	3.48	34.86	55.47	6.19	1.17					2.4			260	679
			2		36.11	57.48	6.41	1.21									
			3		38.58	61.42		1.29									
Carbon, sec. 6, T. 5 N., R. 16 E., Central mine, Lower Hartshorne bed, 3-foot cut.	1735	B	1	3.17	33.33	58.94	4.56	.47					1.0			260	679
			2		34.42	60.87	4.71	.49									
			3		36.12	63.88		.51									
2¼ miles east of; boring No. 9 at depth of 551⅞ feet, 2-inch core through McAlester bed, 38-inch cut.	6225	B	1	2.09	27.59	50.25	20.07	5.73	4.46	63.66	1.33	4.75	1.0	6,497	11,695	260	680
			2		28.18	51.32	20.50	5.85	4.32	65.02	1.36	2.95		6,636	11,945		
			3		35.45	64.55		7.36	5.43	81.79	1.71	3.71		8,347	15,025		
Chambers, Chambers mine, McAlester bed	1743	B	1	3.46	40.10	47.09	9.35	3.54					1.2			260	680
			2		41.54	48.78	9.68	3.67									
			3		45.99	54.01		4.06									
Coleman, sec. 9, T. 4 N., R. 16 E., Bolen Darnall mine, McAlester bed, 3½-foot cut.	1757	B	1	3.61	35.56	57.40	3.43	.81					1.0				680
			2		36.89	59.55	3.56	.84									
			3		38.25	61.75		.87									

Craig, 3 miles east of; boring No. 7 at depth of 441½ feet, 2-inch core through McAlester bed, 4-foot cut.	6224	B	1	3.10	32.07	59.34	5.49	.89	5.13	73.52	1.89	13.08	1.1	7,497	13,495	260	680
			2	......	33.10	61.23	5.67	.92	4.94	75.87	1.95	10.65	......	7,737	13,927		
			3	......	35.09	64.91	......	.98	5.24	80.43	2.07	11.28	......	8,202	14,764		
3 miles south of; 1,150 feet north, 60° E. of SW. cor. sec. 11, tract 53, T. 3 N., R. 14 E., boring No. 6, McAlester bed, 3¼-foot cut.	6118	B	1	3.73	31.97	59.38	4.92	.72	5.21	74.82	1.66	12.67	......	7,398	13,316	260	680
			2	......	33.21	61.68	5.11	.75	4.98	77.72	1.72	9.72	......	7,685	13,833		
			3	......	35.00	65.00	......	.79	5.26	81.91	1.81	10.23	......	8,098	14,576		
Dow, sec. 26, T. 5 N., R. 16 E., Milby & Dow mine, McAlester bed, 35-inch cut.	1715	B	1	4.07	36.11	55.89	3.93	.52	......	......	......	......	1.8	7,541	13,574	260	681
			2	......	37.64	58.26	4.10	.54	......	......	......	......	......	7,861	14,150		
			3	......	39.26	60.74	......	.56	......	......	......	......	......	8,197	14,755		
Edwards, No. 1 mine, McAlester bed (east air course 2, 48-inch cut)......	1079	A	1	2.97	40.43	48.22	8.38	3.05	......	......	......	......	......	......	......	260	681
			2	......	41.67	49.69	8.64	3.14	......	......	......	......	......	......	......	48	
			3	......	45.61	54.39	......	3.44	......	......	......	......	......	......	......		
Same (west air course 2, 46½-inch cut)......	1080	A	1	2.93	39.02	47.75	10.30	3.73	......	......	......	......	......	6,995	12,591	260	681
			2	......	40.20	49.19	10.61	3.84	......	......	......	......	......	7,206	12,971	48	
			3	......	44.97	55.03	......	4.30	......	......	......	......	......	8,062	14,512		
Same (run of mine, 25 tons)......	1274	C	1	4.61	37.00	47.25	11.14	3.63	4.92	67.37	1.48	11.46	1.2	6,844	12,319	261	......
			2	......	38.79	49.53	11.68	3.81	4.62	70.62	1.55	7.72	......	7,175	12,915	48	
			3	......	43.92	56.08	......	4.31	5.23	79.96	1.76	8.74	......	8,123	14,621		
Hartshorne, 1 mile from; No. 8 mine, Lower Hartshorne bed (room 16, off west entry 7, 46-inch cut).	1071	A	1	1.46	39.04	53.10	6.40	1.38	......	......	1.70	......	......	7,800	14,040	260	681
			2	......	39.62	53.89	6.49	1.40	......	......	1.73	......	......	7,915	14,247	332	
			3	......	42.37	57.63	......	1.50	......	......	1.85	......	......	8,465	15,237	48	
Same (room 14, off main east entry 7, 53½-inch cut)......	1073	A	1	1.30	38.90	52.15	7.65	1.58	......	......	......	......	......	......	......	260	681
			2	......	39.41	52.84	7.75	1.60	......	......	......	......	......	......	......	332	
			3	......	42.71	57.29	......	1.73	......	......	......	......	......	......	......	48	
Same (run of mine, 20 tons)......	1184	C	1	4.45	36.15	48.40	11.00	1.52	5.17	69.49	1.67	11.15	2.8	7,004	12,607	261	......
			2	......	37.83	50.66	11.51	1.59	4.90	72.73	1.75	7.52	......	7,330	13,194	48	
			3	......	42.75	57.25	......	1.80	5.54	82.18	1.98	8.50	......	8,284	14,911		
			4	......	......	......	......	......	5.64	83.69	2.01	8.66	......	8,392	15,106		
Same (slack, through ¾-inch screen)......	3405	C	1	6.27	32.37	47.07	14.29	1.79	4.85	65.76	1.64	11.67	4.9	6,576	11,837	332	......
			2	......	34.54	50.21	15.25	1.91	4.43	70.16	1.75	6.50	......	7,016	12,629		
			3	......	40.75	59.25	......	2.25	5.24	82.78	2.06	7.67	......	8,278	14,900		
Same (lump, over 1-inch screen)......	3406	C	1	2.81	36.11	52.33	8.75	1.82	5.12	73.46	1.85	9.00	1.4	7,400	13,320	332	......
			2	......	37.15	53.85	9.00	1.87	4.95	75.58	1.90	6.70	......	7,614	13,705		
			3	......	40.83	59.17	......	2.06	5.44	83.06	2.09	7.35	......	8,367	15,061		
Same (east air course 8, 4,100 feet west of shaft, 48½-inch cut).	10053	A	1	3.53	36.34	55.22	4.91	1.52	5.66	76.49	1.92	9.50	1.8	7,714	13,885	332	681
			2	......	37.67	57.24	5.09	1.58	5.46	79.29	1.99	6.59	......	7,996	14,393		
			3	......	39.69	60.31	......	1.66	5.75	83.54	2.10	6.95	......	8,425	15,165		
McAlester, No. 2 slope, Valley Mine, Lower Hartshorne bed.	1737	B	1	4.59	32.44	58.21	4.76	1.24	......	......	......	......	2.1	......	......	260	682
			2	......	34.00	61.01	4.99	1.30	......	......	......	......	......	......	......		
			3	......	35.79	64.21	......	1.37	......	......	......	......	......	......	......		
McAlester No. 3 mine	1736	B	1	3.39	34.38	57.33	4.90	.82	......	......	......	......	1.0	7,638	13,748	260	682
			2	......	35.59	59.34	5.07	.85	......	......	......	......	......	7,906	14,231		
			3	......	31.49	62.51	......	.90	......	......	......	......	......	8,328	14,990		
Pittsburg, McAlester-Edwards No. 1 mine, McAlester bed, left entry 5, off east entry, 1,300 feet N. 14° E. of slope mouth, 43-inch cut.	10060	A	1	4.54	37.50	49.40	8.56	3.23	4.91	70.09	1.60	11.61	1.9	7,061	12,710	260	682
			2	......	39.29	51.74	8.97	3.38	4.62	73.43	1.68	7.92	......	7,397	13,315		
			3	......	43.16	56.84	......	3.72	5.08	80.66	1.85	8.69	......	8,126	14,627		
Savanna, No. 1 mine, McAlester bed......	1745	B	1	4.86	35.59	54.43	5.12	1.49	......	......	......	......	1.6	......	......	260	683
			2	......	37.41	57.21	5.38	1.57	......	......	......	......	......	......	......		
			3	......	39.54	60.46	......	1.66	......	......	......	......	......	......	......		
Savanna No. 1 slope......	1744	B	1	5.14	34.02	55.23	5.61	1.23	......	......	......	......	2.2	7,235	13,023	260	683
			2	......	35.86	58.23	5.91	1.30	......	......	......	......	......	7,627	13,729		
			3	......	38.11	61.89	......	1.38	......	......	......	......	......	8,106	14,591		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
OKLAHOMA—Continued.																	
PITTSBURG COUNTY—continued.																	
Savanna—Continued.																	
1 mile southeast of; in tract 69, NE. ¼ SE. ¼ sec. 16, T. 4 N., R. 14 E., bore hole No. 2, Lower Hartshorne bed, 3⅝-foot cut, from a 2-inch core.	5921	B	1	2.63	33.47	54.53	9.37	1.35	4.72	72.56	1.57	10.43	0.7	7,210	12,978	260	683
			2	....	34.37	56.01	9.62	1.39	4.55	74.52	1.61	8.31	....	7,405	13,329		
			3	....	38.03	61.97	....	1.54	5.03	82.45	1.78	9.20	....	8,193	14,747		
South McAlester, Great Western mine	1738	B	1	3.77	37.44	53.79	5.00	2.24	....	....	....	....	1.1	7,659	13,786	.....	683
			2	....	38.91	55.89	5.20	2.33	....	....	....	....	....	7,959	14,326		
			3	....	41.05	58.95	....	2.46	....	....	....	....	....	8,395	15,111		
OREGON.																	
COOS COUNTY.																	
Beaver Hill, 1 mile southwest of; sec. 17, T. 27 S., R. 13 W., Beaver Hill or Newport bed (room 5, 700 feet northwest of mouth, 65-inch cut).	*9151	B	1	14.27	34.46	43.20	8.07	.74	....	....	....	....	7.0	5,348	9,626	431	684
			2	....	40.20	50.39	9.41	.86	....	....	....	....	....	6,239	11,230		
			3	....	44.38	55.62	....	.96	....	....	....	....	....	6,887	12,397		
Same (1,000 feet southeast main entrance, 72½-inch cut).	*9152	B	1	16.10	31.10	39.63	13.17	.81	5.53	51.07	1.19	28.23	8.1	5,017	9,031	431	684
			2	....	37.07	47.23	15.70	.97	4.46	60.87	1.42	16.58	....	5,980	10,764		
			3	....	43.97	56.03	....	1.15	5.29	72.20	1.68	19.68	....	7,094	12,769		
Coquille, 1 mile north of; sec. 36, T. 27 S., R. 13 W., Peart Bros.' mine, 480 feet down main slope and 140 feet west inside entry, Newport bed, 103½-inch bed, 43½-inch cut.	*9188	B	1	17.96	31.77	39.72	10.55	2.27	....	....	....	....	6.8	4,951	8,912	431	684
			2	....	38.72	48.42	12.86	2.77	....	....	....	....	....	6,035	10,863		
			3	....	44.43	55.57	....	3.18	....	....	....	....	....	6,926	12,467		
Lampa, ½ mile west of; sec. 36, T. 28 S., R. 14 W., Happy Hooligan mine, Hooligan bed, wall of entry 50 feet in, 65½-inch bed, 47½-inch cut.	*9322	B	1	13.77	32.05	46.72	7.46	4.35	....	....	....	....	7.8	5,030	9,054	431	685
			2	....	37.16	54.19	8.65	5.04	....	....	....	....	....	5,833	10,499		
			3	....	40.68	59.32	....	5.52	....	....	....	....	....	6,385	11,493		
3 miles southeast of; sec. 4, T. 29 S., R. 13 W., Albee mine, Albee (52-inch) bed, 3-foot cut.	*9245	B	1	12.78	34.83	38.16	14.23	1.13	....	....	....	....	1.6	4,991	8,984	431	686
			2	....	39.93	43.76	16.31	1.30	....	....	....	....	....	5,722	10,300		
			3	....	47.71	52.29	....	1.55	....	....	....	....	....	6,837	12,307		
Libby, 3 miles southwest of Marshfield; sec. 4, T. 26 S., R. 13 W. (third gangway west, 1,000 feet from mouth of mine, 7½-foot bed, 5-foot 11-inch cut).	2461	B	1	20.84	34.04	36.75	8.37	1.17	....	....	....	....	11.3	5,749	10,348	431	686
			2	....	43.00	46.43	10.57	1.48	....	....	....	....	....	7,268	13,073		
			3	....	48.10	51.90	....	1.65	....	....	....	....	....	8,121	14,618		
Same (first gangway west, 900 feet from bottom of slope, below water level, 82-inch bed, 5½-foot cut).	2462	B	1	24.90	39.80	27.27	8.03	.75	....	....	....	....	9.7	4,717	8,490	431	686
			2	....	53.00	36.31	10.69	1.00	....	....	....	....	....	6,281	11,306		
			3	....	59.33	40.67	....	1.12	....	....	....	....	....	7,033	12,659		

Marshfield, 1 mile southwest of; sec. 34, T. 25 S., R. 13 W., South Marshfield mine, 500 feet in, Newport (83-inch) bed, 49-inch cut.	*9124	B	1	20.2	33.5	36.5	9.8	2.15					14.8	48,65	8,760	431	686
			2		42.0	45.7	12.3	2.70						6,095	10,980		
			3		48.0	52.0		3.10						6,955	12,520		
1 mile west of; sec. 27, T. 25 S., R. 13 W., Waterworks mine, 700 feet in mine, Waterworks 46-inch bed, 37-inch cut.	*9123	B	1	20.28	34.12	32.24	13.36	1.02					15.3	4,764	8,575	431	687
			2		42.80	40.44	16.76	1.28						5,976	10,757		
			3		51.42	48.58		1.54						7,178	12,920		
4 miles southeast of; sec. 4, T. 26 S., R. 12 W., Coos Bay field, Lillian mine (not in operation), 620 feet in, Lillian 98-inch bed, 6½-foot cut.	*9127	B	1	19.7	31.5	35.0	13.8	.80					13.6	4,665	8,400	431	688
			2		39.5	43.3	17.2	1.00						5,810	10,460		
			3		47.5	52.5		1.20						7,015	12,630		
Maxwell, 2 miles southeast of; sec. 36, T. 26 S., R. 13 W., Smith & Power mine, 150 feet in, 54½-inch bed, 37-inch cut.	*9187	B	1	18.96	28.50	35.44	17.10	.54					8.6	4,316	7,769	431	688
			2		35.17	43.73	21.10	.67						5,326	9,587		
			3		44.57	55.43		.85						6,750	12,150		
North Bend, sec. 15, T. 25 S., R. 13 W., Wilcox mine (180 feet in, North Bend No. 1 bed, 16-inch cut).	*9125	B	1	19.6	30.0	32.6	17.8	5.45					14.8	4,230	7,610	431	689
			2		37.0	40.9	22.1	6.75						5,260	9,470		
			3		47.5	52.5		8.65						6,750	12,150		
Same (North Bend No. 2 bed, 200 feet in mine, 1½-foot cut).	*9126	B	1	22.5	29.5	35.2	12.8	2.80					17.1	4,340	7,810	431	689
			2		38.0	45.5	16.5	3.60						5,595	10,080		
			3		46.0	54.0		4.30						6,705	12,070		
3 miles northeast of; on Kentuck Slough, NW. ¼ NW. ¼ sec. 6, T. 25 S., R. 12 W., Gilberton mine, Steva 10-foot bed, 8½-foot cut.	*9128	B	1	23.19	31.50	31.77	13.54	2.35					16.8	4,454	8,017	431	690
			2		41.01	41.36	17.63	3.06						5,799	10,438		
			3		49.78	50.22		3.71						7,040	12,672		
Riverton, Eureka mine, Eureka 4½-foot bed, 250 feet in, 4-foot cut.	*9312	B	1	16.03	32.77	35.21	15.99	1.28					5.8	4,786	8,615	431	690
			2		39.03	41.93	19.04	1.52						5,700	10,260		
			3		48.21	51.79		1.88						7,041	12,674		
Gage mine, Timon (49½-inch) bed, 450 feet in, 31-inch cut.	*9313	B	1	17.73	31.93	41.88	8.46	.78					6.3	5,177	9,319	431	691
			2		38.81	50.91	10.28	.95						6,293	11,327		
			3		43.26	56.74		1.06						7,014	12,625		
Sec. 9, T. 28 S., R. 13 W., Old Rouse mine, Bunker (28-inch) bed, 100 feet in, 27-inch cut.	*9311	B	1	15.98	36.12	40.20	7.70	2.47					6.2	5,409	9,736	431	692
			2		42.99	47.85	9.16	2.94						6,438	11,588		
			3		47.32	52.68		3.24						7,087	12,757		
Sumner, 2 miles north of; sec. 20, T. 26 S., R. 12 W., Newcastle mine, 150 feet southeast of mouth, Newcastle 43-inch bed, 35-inch cut.	*9189	B	1	22.80	31.43	34.43	11.34	1.92					11.4	4,482	8,068	431	692
			2		40.71	44.60	14.69	2.49						5,806	10,451		
			3		47.72	52.28		2.92						6,806	12,251		
PENNSYLVANIA.																	
ALLEGHENY COUNTY.																	
Bruceton, Bertha mine, Pittsburgh bed (face entry 1, off butt entry 1, 5,000 feet from drift mouth, 60¼-inch cut).	2080	A	1	3.67	34.03	56.84	5.46	1.37					1.8	7,708	13,874	290	693
			2		35.32	59.01	5.67	1.42						8,001	14,402	336	
			3		37.44	62.56		1.51						8,483	15,269	18	
Same (face entry 3, 5,000 feet from drift mouth, 60¼-inch cut).	2081	A	1	4.08	34.41	56.19	5.32	1.31					2.2			290	693
			2		35.87	58.58	5.55	1.37								336	
			3		37.98	62.02		1.45								28	
Same (through 3-inch screen)	2229	C	1	2.61	34.92	56.30	6.17	1.26	5.21	77.14	1.57	8.65	1.3	7,776	13,997	290	
			2		35.86	57.80	6.34	1.29	5.05	79.21	1.61	6.50		7,984	14,371		
			3		38.28	61.72		1.38	5.39	84.57	1.72	6.94		8,525	15,345		
			4						5.47	85.76	1.74	7.03		8,613	15,503		
Clinton, country bank, Pittsburgh (63-inch) bed, 62½-inch cut.	1048	B	1	3.35	35.55	47.55	13.55	1.41								48	694
			2		36.78	49.20	14.02	1.46								18	
			3		42.78	57.22		1.70									

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
PENNSYLVANIA—Continued.																	
ALLEGHENY COUNTY—continued.																	
Creighton, Creighton mine, Upper Freeport bed (4,800 feet northwest of opening, 63½-inch cut).	3437	A	1	2.53	33.99	54.50	8.98	2.21	1.00	......	......	......	1.0	7,420	13,356	332	694
			2	......	34.87	55.92	9.21	2.27	......	......	......	......	......	7,613	13,703	18	
			3	......	38.41	61.59	......	2.50	......	......	......	......	......	8,385	15,094		
Same (5,500 feet northwest of opening, 59¾-inch cut).	3438	A	1	2.93	34.02	55.52	7.53	1.87	......	......	......	......	1.3	......	......	332	694
			2	......	35.05	57.19	7.76	1.93	......	......	......	......	......	......	......	18	
			3	......	38.00	62.00	......	2.09	......	......	......	......	......	......	......		
Same (run of mine)	3879	C	1	2.65	33.02	51.17	13.16	2.16	5.11	70.25	1.21	8.11	1.4	7,120	12,816	332	......
			2	......	33.92	52.56	13.52	2.22	4.95	72.16	1.24	5.91	......	7,314	13,165		
			3	......	39.22	60.78	......	2.57	5.73	83.44	1.44	6.82	......	8,457	15,223		
Scott Haven, Ocean No. 2 mine, Pittsburgh bed (room 19, off south entry 14, off face entry 1, 4-foot 9½-inch bed, 3-foot $11\frac{1}{16}$-inch cut).	6627	A	1	2.60	32.67	59.41	5.32	.77	5.39	78.16	1.45	8.91	1.4	7,825	14,085	6	695
			2	......	33.54	61.00	5.46	.79	5.24	80.25	1.49	6.77	......	8,034	14.461		
			3	......	35.48	64.52	......	.84	5.54	84.89	1.58	7.15	......	8,498	15,297		
Same (room 19, off north entry 10, off face entry 6, 5-foot $2\frac{11}{16}$-inch bed, 4-foot 4¼-inch cut).	6656	A	1	2.62	33.51	58.69	5.18	.80	5.51	77.62	1.30	9.59	1.4	7,861	14,150	6	695
			2	......	34.41	60.27	5.32	.82	5.36	79.71	1.33	7.46	......	8,072	14,530		
			3	......	36.34	63.66	......	.87	5.66	84.19	1.40	7.88	......	8,526	15,347		
BEAVER COUNTY.																	
Frankfort, north of; country bank, Pittsburgh bed	1067	B	1	2.51	35.49	50.15	11.85	3.24	......	......	......	......	......	......	......	48	695
			2	......	36.40	51.45	12.15	3.32	......	......	......	......	......	......	......		
			3	......	41.43	58.57	......	3.78	......	......	......	......	......	......	......		
CAMBRIA COUNTY.																	
Bakerton, Sterling No. 1 mine, Lower Kittanning (B) bed (left entry 3, off main entry, 4,100 feet S. 45° E. from drift mouth, 37-inch cut).	8992	A	1	2.6	17.5	72.8	7.1	1.85	......	......	......	......	1.9	......	......	......	696
			2	......	18.0	74.8	7.2	1.90	......	......	......	......	......	......	......		
			3	......	19.5	80.5	......	2.05	......	......	......	......	......	......	......		
Same (main entry, 5,600 feet S. 6° E. from drift mouth, 38-inch cut).	8993	A	1	2.8	19.5	71.3	6.4	1.55	......	......	......	......	2.0	......	......	......	696
			2	......	20.0	73.4	6.6	1.60	......	......	......	......	......	......	......		
			3	......	21.0	79.0	......	1.70	......	......	......	......	......	......	......		
Same (pillar 2 off right entry 2, off main entry, 1,200 feet S. 10° W. from drift mouth, 38-inch cut).	8995	A	1	3.3	16.5	74.6	5.6	1.10	......	......	......	......	2.3	8,012	14,422	......	696
			2	......	17.0	77.2	5.8	1.15	......	......	......	......	......	8,286	14,915		
			3	......	18.0	82.0	......	1.20	......	......	......	......	......	8,796	15,833		
Same (room on left entry 3, off dip entry, 3,200 feet S. 15° W. from drift mouth, 38½-inch cut).	8994	A	1	2.9	17.5	73.5	6.1	1.55	......	......	......	......	2.2	......	......	......	696
			2	......	18.0	75.7	6.3	1.60	......	......	......	......	......	......	......		
			3	......	19.0	81.0	......	1.70	......	......	......	......	......	......	......		

Same (composite of Nos. 8992, 8993, and 8994)	9035	......	1	2.9	17.0	73.4	6.74	1.69	4.68	80.12	1.16	5.61	2.0	7,945	14,310	......	696
			2	......	18.0	75.1	6.94	1.74	4.48	82.55	1.20	3.09	......	8,190	14,740		
			3	......	19.0	81.0	......	1.87	4.81	88.71	1.29	3.32	......	8,800	15,840		
Sterling No. 5 mine, Lower Kittanning (B) bed (block entry off main entry, 1,400 feet N. 50° E. from drift mouth, 23¼-inch cut).	8990	A	1	3.3	19.0	71.7	6.0	1.50	......	......	......	......	2.4	......	......	......	696
			2	......	19.5	74.4	6.1	1.55	......	......	......	......	......	......	......		
			3	......	21.0	79.0	......	1.65	......	......	......	......	......	......	......		
Same (right entry 7, off main entry, 2,200 feet N. 30° E. from drift mouth, 37½-inch cut).	8991	A	1	3.3	18.0	73.0	5.7	1.05	......	......	......	......	2.5	......	......	......	696
			2	......	18.5	75.6	5.95	1.10	......	......	......	......	......	......	......		
			3	......	20.0	80.0	......	1.20	......	......	......	......	......	......	......		
Same (composite of Nos. 8990 and 8991)	9034	......	1	3.2	18.5	72.4	5.87	1.27	4.84	80.43	1.27	6.32	2.5	7,955	14,320	......	696
			2	......	19.0	74.9	6.06	1.31	4.63	83.09	1.31	3.60	......	8,220	14,790		
			3	......	20.5	79.5	......	1.39	4.93	88.45	1.39	3.84	......	8,750	15,750		
Sterling No. 6 mine, Lower Kittanning (B) bed (left entry 1, off main dip entry, 4,200 feet S. 30° W. from drift mouth, 2-foot 11½-inch cut).	8996	A	1	3.8	17.0	72.1	7.1	1.85	......	......	......	......	3.0	......	......	......	697
			2	......	17.5	75.2	7.3	1.90	......	......	......	......	......	......	......		
			3	......	19.0	81.0	......	2.05	......	......	......	......	......	......	......		
Same (left entry 4, 3,800 feet S. 45° W. from drift mouth, 37½-inch cut).	8997	A	1	3.8	18.0	71.7	6.5	1.25	......	......	......	......	2.8	......	......	......	697
			2	......	18.5	74.7	6.8	1.30	......	......	......	......	......	......	......		
			3	......	20.0	80.0	......	1.40	......	......	......	......	......	......	......		
Same (pillar of entries 2 and 3 off dip entry, 3,200 feet S. 45° W. from drift mouth, 34-inch cut).	8998	A	1	2.7	19.5	71.1	6.7	1.70	......	......	......	......	2.1	7,870	14,160	......	697
			2	......	20.0	73.1	6.9	1.75	......	......	......	......	......	8,090	14,560		
			3	......	21.5	78.5	......	1.90	......	......	......	......	......	8,690	15,640		
Same (right entry 3, off left entry 2, 4,800 feet S. 45° E. from drift mouth, 32¼-inch cut).	9046	A	1	3.5	17.5	72.5	6.5	1.70	......	......	......	......	3.1	......	......	......	697
			2	......	18.0	75.3	6.7	1.75	......	......	......	......	......	......	......		
			3	......	19.0	81.0	......	1.90	......	......	......	......	......	......	......		
Same (right entry 7, off left entry 2, 5,300 feet S. 60° W. from drift mouth, 34½-inch cut).	9047	A	1	2.8	19.0	72.3	5.9	1.05	......	......	......	......	2.3	......	......	......	697
			2	......	19.5	74.5	6.0	1.10	......	......	......	......	......	......	......		
			3	......	21.0	79.0	......	1.15	......	......	......	......	......	......	......		
Same (composite of Nos. 8996, 8997, 9046, and 9047).	9052	......	1	3.4	18.5	71.4	6.69	1.50	4.80	80.05	1.05	5.91	2.8	7,870	14,170	......	697
			2	......	19.0	74.1	6.92	1.55	4.58	82.86	1.09	3.00	......	8,145	14,660		
			3	......	20.5	79.5	......	1.67	4.92	89.02	1.17	3.22	......	8,750	15,750		
Barnesboro, Lancashire No. 10 mine, Upper Freeport bed (right heading 4, 44½-inch cut).	7958	B	1	2.56	21.78	67.69	7.97	2.02	5.07	78.67	1.24	5.03	1.8	7,805	14,049	......	698
			2	......	22.35	69.47	8.18	2.07	4.92	80.74	1.27	2.82	......	8,010	14,418		
			3	......	24.34	75.66	......	2.25	5.36	87.93	1.38	3.08	......	8,724	15,703		
Same (right heading 5, 39½-inch cut)	7957	B	1	2.72	22.01	66.40	8.87	1.54	......	......	......	......	1.8	7,678	13,820	......	698
			2	......	22.62	68.26	9.12	1.58	......	......	......	......	......	7,893	14,207		
			3	......	24.89	75.11	......	1.74	......	......	......	......	......	8,685	15,633		
Lancashire No. 12 mine, Lower Freeport bed (left heading 11, 53-inch cut).	7953	B	1	4.44	19.19	68.84	7.53	1.69	5.17	77.76	1.15	6.70	3.4	7,616	13,709	......	698
			2	......	20.08	72.04	7.88	1.77	4.90	81.38	1.20	2.87	......	7,970	14,346		
			3	......	21.80	78.20	......	1.92	5.32	88.34	1.30	3.12	......	8,651	15,572		
Same (right heading 13, 53¼-inch bed, 50½-inch cut).	7963	B	1	3.09	20.62	70.04	6.25	1.14	......	......	......	......	2.5	7,917	14,251	......	698
			2	......	21.28	72.27	6.45	1.18	......	......	......	......	......	8,170	14,706		
			3	......	22.75	77.25	......	1.26	......	......	......	......	......	8,734	15,721		
¾ mile northeast of; Delta mine, Lower Freeport or D bed (left entry 16, off main, 5,500 feet from drift mouth, 46-inch cut).	10285	A	1	2.64	22.98	67.80	6.58	1.38	......	......	......	......	2.1	7,902	14,224	......	699
			2	......	23.60	69.64	6.76	1.42	......	......	......	......	......	8,116	14,609		
			3	......	25.31	74.69	......	1.52	......	......	......	......	......	8,704	15,667		
Same (left entry 14, off main, 50¼-inch cut)	10286	A	1	2.83	22.64	67.85	6.68	1.59	......	......	......	......	2.3	7,849	14,128	......	699
			2	......	23.30	69.83	6.87	1.64	......	......	......	......	......	8,077	14,539		
			3	......	25.02	74.98	......	1.76	......	......	......	......	......	8,673	15,611		
Same (room 30, left entry 12, 4,500 feet from drift mouth, 48½-inch cut).	10262	A	1	2.72	21.95	68.58	6.75	1.60	......	......	......	......	2.1	7,888	14,198	......	699
			2	......	22.56	70.50	6.94	1.64	......	......	......	......	......	8,109	14,596		
			3	......	24.24	75.76	......	1.76	......	......	......	......	......	8,714	15,685		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
PENNSYLVANIA—Continued.																	
CAMBRIA COUNTY—continued.																	
Barnesboro, Delta mine—Continued.																	
Same (left entry 18, off main, 6,500 feet from drift mouth, 52¾-inch cut).	10287	A	1	3.03	22.01	68.40	6.56	1.48	......	......	......	......	2.4	7,871	14,168	......	699
			2	......	22.70	70.54	6.76	1.53	......	......	......	......	......	8,117	14,611		
			3	......	24.35	75.65	......	1.64	......	......	......	......	......	8,706	15,669		
Same (pillar on right entry 2, off main, 2,000 feet from drift mouth, 39½-inch cut).	10263	A	1	3.86	22.02	68.20	5.92	1.34	......	......	......	......	2.6	7,787	14,017	......	699
			2	......	22.90	70.94	6.16	1.39	......	......	......	......	......	8,099	14,578		
			3	......	24.40	75.60	......	1.48	......	......	......	......	......	8,630	15,534		
Same (composite of 10262 and 10285–10287)......	10292	A	1	2.87	21.44	69.23	6.46	1.52	5.00	80.53	1.19	5.30	2.2	7,876	14,177	......	699
			2	......	22.07	71.28	6.65	1.56	4.81	82.91	1.23	2.84	......	8,108	14,595		
			3	......	23.64	76.36	......	1.67	5.15	88.81	1.32	3.05	......	8,685	15,634		
Dale (near Johnstown), Dale mine, Upper Kittanning (C′) bed, 32-inch cut.	3836	B	1	2.60	14.10	72.05	11.25	2.79	......	......	......	......	2.0	......	......	316	700
			2	......	14.48	73.97	11.55	2.86	......	......	......	......	......	......	......	447	
			3	......	16.37	83.63	......	3.23	......	......	......	......	......	......	......		
East Conemaugh, Conemaugh slope, Upper Freeport (Coke Yard) 43-inch bed.	3825	B	1	2.65	14.86	72.38	10.11	2.06	......	......	......	......	2.0	......	......	316	700
			2	......	15.26	74.36	10.38	2.12	......	......	......	......	......	......	......	447	
			3	......	17.03	82.97	......	2.37	......	......	......	......	......	......	......		
Ehrenfeld, No. 3 mine, Lower Kittanning (Miller) bed (left entry 23, 2¼ miles from drift mouth, 48-inch bed, 44½-inch cut).	2014	A	1	3.49	16.12	74.68	5.71	.95	......	......	......	......	2.8	8,064	14,515	290	700
			2	......	16.70	77.38	5.92	.98	......	......	......	......	......	8,356	15,041	316	
			3	......	17.75	82.25	......	1.04	......	......	......	......	......	8,881	15,986	447	
Same (main entry, 2¾ miles from drift mouth, 4-foot bed, 3¾-foot cut).	2015	A	1	3.09	16.66	74.79	5.46	1.18	......	......	......	......	2.2	......	......	290	700
			2	......	17.19	77.18	5.63	1.22	......	......	......	......	......	......	......	316	
			3	......	18.22	81.78	......	1.29	......	......	......	......	......	......	......	336 18	
Same (run of mine)..............................	2152	C	1	3.51	16.82	73.04	6.63	.94	4.56	80.70	1.26	5.91	2.9	7,933	14,279	290	......
			2	......	17.43	75.70	6.87	.97	4.32	83.64	1.31	2.89	......	8,222	14,800	28	
			3	......	18.72	81.28	......	1.05	4.64	89.80	1.40	3.11	......	8,828	15,890		
			4	......	......	......	......	......	4.69	90.75	1.42	3.14	......	8,896	16,013		
Emeigh, Victor No. 15 mine, face of heading, Lower Freeport, 45-inch bed, 44-inch cut.	7970	B	1	5.46	22.40	65.23	6.91	1.17	5.13	77.23	1.19	8.37	4.7	7,585	13,653	......	701
			2	......	23.69	69.00	7.31	1.24	4.78	81.69	1.26	3.72	......	8,023	14,441		
			3	......	25.56	74.44	......	1.34	5.16	88.14	1.36	4.00	......	8,656	15,581		
Same (40½-inch cut)..............................	7968	A	1	3.14	21.92	67.53	7.41	.78	......	......	......	......	2.30	7,789	14,020	......	701
			2	......	22.63	69.72	7.65	.81	......	......	......	......	......	8,041	14,474		
			3	......	24.50	75.50	......	.88	......	......	......	......	......	8,707	15,673		

Expedit (Twin Rocks), near Big Bend, Nonpareil No. 1 mine, Lower Kittanning (B) bed.	3809	B	1	3.45	18.82	71.18	6.55	2.01					3.0			316	702
			2		19.49	73.73	6.78	2.08									
			3		20.91	79.09		2.23									
No. 3 mine, Lower Kittanning (B) bed, right heading 4.	3810	B	1	3.07	17.64	72.85	6.44	1.38					2.5			316	702
			2		18.20	75.16	6.64	1.42									
			3		19.49	80.51		1.52									
Fallen Timber, Peerless No. 4 mine, Upper Freeport or E bed (right main entry, 1,250 feet from drift mouth, 26½-inch cut).	10278	A	1	3.47	24.52	61.40	10.61	1.79					2.5	7,480	13,464		702
			2		25.40	63.61	10.99	1.85						7,749	13,948		
			3		28.54	71.46		2.08						8,706	15,671		
Same (left main entry, 1,200 feet from drift mouth, 27½-inch cut).	10279	A	1	3.30	24.79	63.10	8.81	1.64					2.7	7,680	13,824		702
			2		25.64	65.25	9.11	1.70						7,942	14,296		
			3		28.21	71.79		1.87						8,738	15,728		
Same (composite of Nos. 10278 and 10279)	10298	A	1	3.34	24.06	62.75	9.85	1.80	4.96	76.78	1.25	5.36	2.6	7,566	13,618		
			2		24.89	64.92	10.19	1.86	4.76	79.44	1.29	2.46		7,827	14,089		702
			3		27.72	72.28		2.07	5.30	88.46	1.44	2.73		8,715	15,688		
Franklin, Franklin Slope No. 2, Lower Kittanning (B) bed 43-inch cut.	3840	B	1	2.70	15.64	74.03	7.63	1.93					1.8			316	703
			2		16.07	76.09	7.84	1.98								447	
			3		17.44	82.56		2.15									
Franklin mine No. 1, Upper Kittanning (C′) bed, bed about 5 feet.	3841	B	1	1.67	18.52	69.14	10.67	3.46					1.0			316	703
			2		18.83	70.32	10.85	3.52								447	
			3		21.12	78.88		3.95									
Hastings, No. 20 mine, Lower Freeport (D) bed, in room 19 off left heading 29, several hundred feet from opening (sample 1,[a] 59-inch cut).	4028	A	1	2.86	22.64	67.71	6.79	1.42					2.3			332	703
			2		23.31	69.70	6.99	1.46									
			3		25.06	74.94		1.57									
Same in 24th right heading (sample 2,[a] 47-inch cut).	4029	A	1	2.74	22.66	67.37	7.23	1.51					2.3	7,858	14,144	332	703
			2		23.30	69.27	7.43	1.55						8,080	14,544		
			3		25.17	74.83		1.67						8,728	15,710		
Same (run of mine)	4169	C	1	4.25	21.79	66.09	7.87	1.59	4.72	75.92	1.28	8.62	3.9	7,507	13,513	332	
			2		22.76	69.02	8.22	1.66	4.44	79.29	1.34	5.05		7,840	14,112		
			3		24.80	75.20		1.81	4.84	86.39	1.46	5.50		8,542	15,376		
Johnstown, Ferndale mine, Upper Freeport (E) bed, main bench, 3½-foot cut.	3843	B	1	2.82	15.61	70.32	11.25	2.42	4.29	76.48	1.22	4.34	2.1	7,483	13,469	316	704
			2		16.06	72.37	11.57	2.49	4.10	78.70	1.26	1.88		7,700	13,860	447	
			3		18.17	81.83		2.82	4.63	89.00	1.42	2.13		8,708	15,674		
Greenhill mine, Lower Kittanning (B) bed, (3½-foot cut).	3838	B	1	2.03	14.47	75.31	8.19	2.26	4.14	79.97	1.26	4.18	1.4	7,823	14,081	316	705
			2		14.77	76.87	8.36	2.31	3.99	81.63	1.29	2.42		7,985	14,373	447	
			3		16.12	83.88		2.52	4.37	89.07	1.40	2.64		8,713	15,683		
Litsinger mine (on Solomon's Run, southeast of Johnstown), Upper Kittanning (C′) bed, (37-inch cut).	3844	B	1	3.51	17.16	69.04	10.29	2.01					2.3			316	705
			2		17.78	71.56	10.66	2.08								447	
			3		19.90	80.10		2.33									
Rolling Mill mine, Upper Kittanning (C′) bed, (37-inch cut).	3833	B	1	1.94	15.81	70.77	11.48	3.73					1.2			447	705
			2		16.12	72.17	11.71	3.80									
			3		18.26	81.74		4.30									
Stony Creek prospect, near trolley bridge between Moxhom and Ferndale, 10 feet from outcrop, Lower Freeport (D) bed (38-inch cut).	4012	B	1	4.73	13.78	72.27	9.22	1.09					4.0			316	705
			2		14.46	75.86	9.68	1.14								447	
			3		16.01	83.99		1.26									
Sunnyside No. 2 mine (at Moxhom), Upper Kittanning (C′) bed, bed about 4 feet.	3834	B	1	2.93	13.47	74.06	9.54	1.88					2.2			316	706
			2		13.88	76.29	9.83	1.94								447	
			3		15.39	84.61		2.15									
1½ miles from; Sunnyside mine, Upper Kittanning or C′ bed (main entry, 43-inch cut).	10249	A	1	5.60	14.04	70.86	9.50	2.33					5.1	7,381	13,286	447	707
			2		14.87	75.07	10.06	2.47						7,819	14,074		
			3		16.53	83.47		2.75						8,694	15,649		

[a] Samples 1 and 2 from widely separated points in same mine.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
PENNSYLVANIA—continued.																	
CAMBRIA COUNTY—continued.																	
Johnstown, Sunnyside mine—Continued.																	
Same (left entry 3, 42-inch cut)	10252	A	1	3.18	14.01	72.88	9.93	2.15	......	......	......	......	2.8	7,527	13,549	447	707
			2	......	14.47	75.27	10.26	2.22	......	......	......	......	......	7,774	13,993		
			3	......	16.12	83.88	......	2.47	......	......	......	......	......	8,663	15,593		
Same (right entry 3, 42-inch cut)	10251	A	1	3.30	14.23	71.56	10.91	2.79	......	......	......	......	2.9	7,403	13,325	447	707
			2	......	14.72	74.00	11.28	2.89	......	......	......	......	......	7,655	13,779		
			3	......	16.59	83.41	......	3.26	......	......	......	......	......	8,628	15,530		
Same (left entry 1, 4,800 feet from drift mouth, 42-inch cut).	10250	A	1	2.44	14.87	72.94	9.75	2.22	......	......	......	......	2.1	7,609	13,696	447	707
			2	......	15.24	74.77	9.99	2.28	......	......	......	......	......	7,799	14,038		
			3	......	16.93	83.07	......	2.53	......	......	......	......	......	8,664	15,595		
Same (composite of Nos. 10249-10252)	10270	A	1	3.74	14.46	71.73	10.07	2.36	4.40	77.10	1.22	4.85	3.2	7,464	13,435	447	707
			2	......	15.00	74.54	10.46	2.45	4.13	80.10	1.27	1.59	......	7,754	13,957		
			3	......	16.75	83.25	......	2.74	4.61	89.46	1.42	1.77	......	8,660	15,588		
Lilly, Sonman No. 2 mine, Lower Kittanning or B bed (room 26 off left entry 7, 5,500 feet west of mine mouth, 46-inch cut).	10325	A	1	3.43	17.51	73.14	5.92	.61	......	......	......	......	2.7	7,914	14,243	......	707
			2	......	18.13	75.74	6.13	.63	......	......	......	......	......	8,195	14,751		
			3	......	19.31	80.69	......	.67	......	......	......	......	......	8,730	15,714		
Same (room 9, off right entry 3, 5,000 feet north of mine mouth, 44-inch cut).	10326	A	1	8.99	16.74	68.57	5.70	.63	......	......	......	......	8.2	7,460	13,428	......	707
			2	......	18.39	75.35	6.26	.69	......	......	......	......	......	8,197	14,755		
			3	......	19.62	80.38	......	.74	......	......	......	......	......	8,745	15,741		
Same (pillar in room 6 off right entry 2, 4,200 feet north of mine mouth, 37½-inch cut).	10327	A	1	4.79	17.42	71.42	6.37	.67	......	......	......	......	3.8	7,766	13,979	......	707
			2	......	18.30	75.01	6.69	.70	......	......	......	......	......	8,157	14,683		
			3	......	19.61	80.39	......	.75	......	......	......	......	......	8,742	15,736		
Same (composite of 10325 and 10326)	10328	A	1	6.08	18.81	69.26	5.85	.60	5.06	79.24	1.28	7.97	5.5	7,682	13,828	......	707
			2	......	20.03	73.74	6.23	.64	4.06	84.37	1.36	2.74	......	8,179	14,722		
			3	......	21.36	78.64	......	.68	4.97	89.97	1.45	2.93	......	8,722	15,700		
Lloydell, Cambria mine, Miller bed (room 10, left heading 3, 2,500 feet south of drift mouth, 42½-inch cut).	4347	A	1	2.43	17.75	73.21	6.61	1.34	......	......	......	......	1.9	......	......	332	708
			2	......	18.19	75.04	6.77	1.37	......	......	......	......	......	......	......	28	
			3	......	19.51	80.49	......	1.47	......	......	......	......	......	......	......		
Same (left heading 5, 3,200 feet south of drift mouth, 39-inch cut).	4348	A	1	2.66	17.6	71.18	8.56	2.97	......	......	......	......	2.2	7,775	13,995	332	708
			2	......	18.08	73.13	8.79	3.05	......	......	......	......	......	7,987	14,377		
			3	......	19.82	80.18	......	3.34	......	......	......	......	......	8,758	15,764		
Same (run of mine)	4509	C	1	4.46	15.44	71.63	8.47	1.49	4.80	77.43	1.28	6.53	4.1	7,601	13,682	332	......
			2	......	16.16	74.97	8.87	1.56	4.50	81.05	1.34	2.68	......	7,956	14,321		
			3	......	17.73	82.27	......	1.71	4.94	88.93	1.47	2.95	......	8,732	15,718		
			4	......	......	......	......	......	5.02	90.48	1.50	3.00	......	8,845	15,921		

Nanty Glo, Cardiff mine Lower Kittanning or B bed (main entry, 4,000 feet from drift mouth, 38¾-inch cut).	381	A	1	1.85	20.14	72.0	6.01	1.84	......	......	......	......	......	8,089	14,561	447	709
			2	......	20.52	73.36	6.12	1.88	......	......	......	......	......	8,242	14,835		
			3	......	21.86	78.14	......	2.00	......	......	......	......	......	8,779	15,802		
Same (left entry 7, 2,800 feet from drift mouth, 38½-inch cut).	382	A	1	1.75	19.93	70.16	8.16	2.55	......	......	......	......	......	7,879	14,182	447	709
			2	......	20.28	71.41	8.31	2.60	......	......	......	......	......	8,019	14,435		
			3	......	22.12	77.88	......	2.84	......	......	......	......	......	8,746	15,743		
Same (right entry 6, 2,100 feet from drift mouth, 42¾-inch cut).	383	A	1	2.25	20.92	71.09	5.74	1.72	......	......	......	......	......	8,096	14,576	447	709
			2	......	21.4	72.73	5.87	1.76	......	......	......	......	......	8,250	14,850		
			3	......	22.73	77.27	......	1.87	......	......	......	......	......	8,764	15,776		
Same (left entry 5, 1,800 feet from drift mouth, 41-inch cut).	384	A	1	2.86	19.92	71.0	6.22	1.74	......	......	......	......	......	8,000	14,400	447	709
			2	......	20.51	73.09	6.4	1.79	......	......	......	......	......	8,236	14,824		
			3	......	21.91	78.09	......	1.91	......	......	......	......	......	8,799	15,838		
Same (composite of Nos. 381–384)	10452	A	1	1.09	20.02	72.09	6.8	2.26	4.74	81.76	1.24	3.20	......	......	......	447	709
			2	......	20.24	72.89	6.87	2.28	4.67	82.66	1.25	2.27	......	......	......		
			3	......	21.73	78.27	......	2.45	5.01	88.75	1.34	2.45	......	......	......		
No. 14 mine, Lower Kittanning (B or Miller) bed, 45-inch cut.	3855	B	1	2.79	17.76	73.2	6.25	1.88	......	......	......	......	2.1	......	......	316	710
			2	......	18.27	75.3	6.43	1.93	......	......	......	......	......	......	......	447	
			3	......	19.53	80.47	......	2.06	......	......	......	......	......	......	......		
Same, one-half mile northeast of; Lower Kittanning (B or Miller) bed, 44-inch cut.	3889	B	1	2.63	17.85	73.24	6.28	1.49	......	......	......	......	2.0	......	......	316	710
			2	......	18.33	75.22	6.45	1.53	......	......	......	......	......	......	......	447	
			3	......	19.59	80.41	......	1.64	......	......	......	......	......	......	......		
Patton, 1 mile north of; Brown bank, 300 feet from mouth, Lower Kittanning, 42-inch bed, 28-inch cut.	7962	B	1	3.88	22.52	67.08	6.52	.66	5.16	79.41	1.27	6.98	3.1	7,843	14,117	......	711
			2	......	23.43	69.79	6.78	.69	4.92	82.62	1.32	3.67	......	8,160	14,688		
			3	......	25.13	74.87	......	.74	5.28	88.63	1.42	3.93	......	8,753	15,755		
Moshannon No. 33 mine, Upper Kittanning or C′ 4½-foot bed (heading 18 off main heading 2, 50-inch cut).	7959	B	1	2.71	23.17	65.77	8.35	1.72	4.96	78.37	1.17	5.43	1.9	7,678	13,820	......	711
			2	......	23.82	67.6	8.58	1.77	4.79	80.56	1.20	3.10	......	7,892	14,206		
			3	......	26.06	73.94	......	1.94	5.24	88.12	1.31	3.39	......	8,633	15,539		
Same (heading 18 off main heading 2, 17½-inch bench, 13¾-inch cut).	7955	B	1	4.00	20.92	61.89	13.19	.89	......	......	......	......	3.0	7,098	12,776	......	711
			2	......	21.79	64.47	13.74	.93	......	......	......	......	......	7,394	13,309		
			3	......	25.26	74.74	......	1.08	......	......	......	......	......	8,572	15,430		
Same (heading 21 off main heading 1, 68-inch bed 43-inch cut).	7965	B	1	.90	22.51	59.28	17.31	3.97	......	......	......	......	.4	7,091	12,764	......	711
			2	......	22.71	59.82	17.47	4.01	......	......	......	......	......	7,156	12,881		
			3	......	27.52	72.48	......	4.86	......	......	......	......	......	8,671	15,608		
Same (left heading 6 off level 2, 5½-foot bed 46-inch cut).	7961	B	1	3.32	21.97	63.03	11.68	3.48	......	......	......	......	2.6	7,325	13,185	......	711
			2	......	22.72	65.2	12.08	3.60	......	......	......	......	......	7,576	13,637		
			3	......	25.84	74.16	......	4.09	......	......	......	......	......	8,617	15,511		
Portage, 1 mile southeast of; Miller No. 1 shaft, Lower Kittanning or B bed (room 1, right entry 1, 1,000 feet from shaft bottom, 41¼-inch cut).	10293	A	1	2.93	16.48	74.56	6.03	.92	......	......	......	......	2.2	7,958	14,324	......	712
			2	......	16.98	76.86	6.21	.95	......	......	......	......	......	8,198	14,756		
			3	......	18.1	81.9	......	1.01	......	......	......	......	......	8,741	15,734		
Same (left air course 1, off right entry 2, 3,000 feet from shaft bottom, 40⅝-inch cut).	10294	A	1	3.09	17.71	73.51	5.69	.71	......	......	......	......	2.5	7,966	14,338	......	712
			2	......	18.27	75.86	5.87	.73	......	......	......	......	......	8,220	14,796		
			3	......	19.41	80.59	......	.78	......	......	......	......	......	8,733	15,719		
Same (straight main entry, 4,500 feet from shaft bottom, 40½-inch cut).	10295	A	1	3.63	16.61	73.26	6.5	1.89	......	......	......	......	3.2	7,823	14,081	......	712
			2	......	17.24	76.01	6.75	1.96	......	......	......	......	......	8,118	14,612		
			3	......	18.49	81.51	......	2.10	......	......	......	......	......	8,706	15,671		
Same (east heading 4 3,000 feet from shaft bottom, 40½-inch cut).	10296	A	1	3.78	17.02	74.22	4.98	.58	......	......	......	......	3.2	8,010	14,418	......	712
			2	......	17.69	77.13	5.18	.60	......	......	......	......	......	8,325	14,985		
			3	......	18.66	81.34	......	.63	......	......	......	......	......	8,780	15,804		
Same (right entry 1 off left heading 1, 2,500 feet from shaft bottom, 32¾-inch cut).	10297	A	1	3.25	17.36	73.9	5.49	1.05	......	......	......	......	2.8	7,983	14,369	......	712
			2	......	17.94	76.39	5.67	1.09	......	......	......	......	......	8,251	14,852		
			3	......	19.02	80.98	......	1.16	......	......	......	......	......	8,747	15,745		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
PENNSYLVANIA—Continued.																	
CAMBRIA COUNTY—continued.																	
Portage, Miller No. 1 shaft—Continued.																	
Same (composite of Nos. 10293, 10294, 10295, 10296, 10297).	10300	A	1	3.52	17.32	73.27	5.89	1.06	4.78	82.06	1.23	4.98	2.8	7,932	14,278	......	712
			2	......	17.94	75.96	6.1	1.10	4.55	85.06	1.27	1.92	......	8,222	14,800		
			3	......	19.11	80.89	......	1.17	4.85	90.59	1.35	2.04	......	8,756	15,761		
2½ miles southeast of: Puritan No. 1 mine, Lower Kittanning or B bed (dip level 1, 13,600 feet from shaft bottom, 42½-inch cut).	10288	A	1	3.68	15.95	73.01	7.36	2.31	......	......	......	......	3.2	7,748	13,946	......	712
			2	......	16.56	75.8	7.64	2.40	......	......	......	......	......	8,044	14,479		
			3	......	17.93	82.07	......	2.60	......	......	......	......	......	8,709	15,676		
Same (upper inside level, 13,300 feet from shaft bottom, 36-inch cut).	10289	A	1	3.43	17.31	71.62	7.64	1.89	......	......	......	......	2.9	7,739	13,930	......	712
			2	......	17.92	74.17	7.91	1.96	......	......	......	......	......	8,014	14,425		
			3	......	19.46	80.54	......	2.13	......	......	......	......	......	8,702	15,664		
Same (right entry 1 off new slope, 1,500 feet from shaft bottom, 45¼-inch cut).	10290	A	1	3.17	16.7	73.42	6.71	1.87	......	......	......	......	2.9	7,860	14,148	......	712
			2	......	17.25	75.82	6.93	1.93	......	......	......	......	......	8,117	14,611		
			3	......	18.54	81.46	......	2.07	......	......	......	......	......	8,722	15,700		
Same (left entry 1 off new slope, 1,400 feet from shaft bottom, 43½-inch cut).	10291	A	1	3.38	16.03	72.74	7.85	1.91	......	......	......	......	2.9	7,734	13,921	......	712
			2	......	16.59	75.29	8.12	1.98	......	......	......	......	......	8,005	14,409		
			3	......	18.06	81.94	......	2.16	......	......	......	......	......	8,713	15,683		
Same (composite of 10288-10291)	10299	A	1	3.49	17.53	71.79	7.19	1.95	4.92	79.66	1.24	5.04	3.0	7,782	14,008	......	712
			2	......	18.16	74.39	7.45	2.02	4.68	82.54	1.28	2.03	......	8,064	14,515		
			3	......	19.62	80.38	......	2.18	5.05	89.19	1.38	2.20	......	8,713	15,683		
St. Benedict, Victor No. 6 mine, Lower Freeport bed (main heading, 5,850 feet from mouth, 46-inch bed, 3½-foot cut).	7954	B	1	2.80	21.22	67.03	8.95	1.82	4.87	77.80	1.28	5.28	1.9	7,646	13,763	......	713
			2	......	21.83	68.96	9.21	1.87	4.69	80.04	1.32	2.87	......	7,866	14,159		
			3	......	24.04	75.96	......	2.06	5.17	88.16	1.45	3.16	......	8,664	15,595		
Same (left heading 7, 3½-foot bed, 38-inch cut)	7956	B	1	2.60	22.13	67.8	7.47	1.71	......	......	......	......	1.8	7,774	13,993	......	713
			2	......	22.72	69.61	7.67	1.76	......	......	......	......	......	7,982	14,368		
			3	......	24.61	75.39	......	1.91	......	......	......	......	......	8,645	15,561		
Victor No. 10 mine, Lower Kittanning bed (right heading 2, 45-inch bed, 27-inch cut).	7960	B	1	2.94	19.52	70.87	6.67	1.76	5.04	79.78	1.26	5.49	2.1	7,857	14,143	......	714
			2	......	20.11	73.02	6.87	1.81	4.85	82.20	1.30	2.97	......	8,095	14,571		
			3	......	21.59	78.41	......	1.94	5.21	88.27	1.40	3.18	......	8,692	15,646		
Same (near tail of heading toward No. 9 mine, 4-foot bed, 31-inch cut).	7966	B	1	3.22	19.31	71.08	6.39	1.38	......	......	......	......	2.5	7,904	14,227	......	714
			2	......	19.95	73.45	6.6	1.43	......	......	......	......	......	8,167	14,701		
			3	......	21.36	78.64	......	1.53	......	......	......	......	......	8,744	15,739		
St. Boniface, Pardee No. 27 mine, Lower Freeport bed (main heading, 51-inch bed, 50-inch cut).	7964	B	1	2.19	23.84	65.36	8.61	1.84	4.80	78.47	1.29	4.99	1.5	7,709	13,876	......	714
			2	......	24.37	66.83	8.8	1.88	4.66	80.23	1.32	3.11	......	7,882	14,188		
			3	......	26.72	73.28	......	2.06	5.11	87.97	1.45	3.41	......	8,643	15,557		

Same (600 feet from pit mouth and 8 yards from main heading, 43-inch bed, 3½-foot cut).	7967	B	1	2.29	22.16	67.29	8.26	1.82	......	......	......	......	1.5	7,711	13,880	......	714
			2	......	22.68	68.87	8.45	1.86	......	......	......	......	......	7,891	14,204		
			3	......	24.77	75.23	......	2.03	......	......	......	......	......	8,619	15,514		
South Fork, Priscilla No. 1 mine, B or Miller bed 2,300 feet north, main heading, 52-inch cut.	7624	A	1	1.13	15.95	75.2	7.72	1.35	......	......	......	......	......	7,993	14,387	447	715
			2	......	16.13	76.06	7.81	1.37	......	......	......	......	......	8,084	14,551		
			3	......	17.5	82.5	......	1.49	......	......	......	......	......	8,769	15,784		
Same (1,300 feet north room 8, off heading 7, 43½-inch cut).	7625	A	1	1.08	16.71	75.79	6.42	1.01	......	......	......	......	......	8,083	14,549	447	715
			2	......	16.89	76.62	6.49	1.02	......	......	......	......	......	8,171	14,708		
			3	......	18.06	81.94	......	1.09	......	......	......	......	......	8,739	15,730		
Stineman No. 1 mine, Lower Kittanning (B or Miller) bed, 3½-foot cut.	3786	B	1	2.21	14.32	78.16	5.31	.47	......	......	......	......	1.6	......	......	316 447	715
			2	......	14.64	79.93	5.43	.48	......	......	......	......	......	......	......		
			3	......	15.48	84.52	......	.51	......	......	......	......	......	......	......		
Stineman No. 5 mine, Upper Freeport (E) bed, 35¾-inch bed.	3784	B	1	3.04	16.27	73.47	7.22	2.18	......	......	......	......	2.5	......	......	316 447	716
			2	......	16.78	75.77	7.45	2.25	......	......	......	......	......	......	......		
			3	......	18.13	81.87	......	2.43	......	......	......	......	......	......	......		
Stineman No. 2 mine; Lower Kittanning (B) bed (west entry 13, off main entry, 10,200 feet S. 45° W. from drift mouth, 46-inch cut).	9041	A	1	3.0	14.0	77.2	5.8	1.31	......	......	......	......	2.3	......	......	447	716
			2	......	14.5	79.5	6.0	1.35	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	1.45	......	......	......	......	......	......	......		
Same (west entry 12, off main entry, 11,000 feet S. 50° W. from drift mouth, 43½-inch cut)...	9042	A	1	2.1	15.0	77.8	5.1	.90	......	......	......	......	1.5	......	......	447	716
			2	......	15.0	79.8	5.2	.90	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.95	......	......	......	......	......	......	......		
Same (west entry 11, off main entry, 11,500 feet S. 15° W. from drift mouth, 45½-inch cut).	9043	A	1	2.3	15.0	77.1	5.6	1.40	......	......	......	......	1.7	......	......	447	716
			2	......	15.5	78.8	5.7	1.40	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	1.50	......	......	......	......	......	......	......		
Same (new west entry 10, off main entry, 11,400 feet S. 80° W. from drift mouth, 45½-inch cut).	9044	A	1	2.1	15.0	77.5	5.4	1.20	......	......	......	......	1.5	......	......	447	716
			2	......	15.0	79.5	5.5	1.25	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	1.30	......	......	......	......	......	......	......		
Same (pillar, room 16, west entry 9, off main entry, 10,100 feet S. 85° W. from drift mouth, 50½-inch cut).	9045	A	1	2.1	15.0	77.7	5.2	1.11	......	......	......	......	1.5	8,125	14,630	447	716
			2	......	15.0	79.7	5.3	1.15	......	......	......	......	......	8,300	14,940		
			3	......	16.0	84.0	......	1.20	......	......	......	......	......	8,765	15,780		
Same (composite of Nos. 9041-9044)............	9071	......	1	2.4	15.0	77.1	5.54	1.31	4.50	82.96	.91	4.78	1.8	8,055	14,500	447	716
			2	......	15.0	79.3	5.68	1.34	4.34	84.98	.93	2.73	......	8,250	14,850		
			3	......	16.0	84.0	......	1.42	4.60	90.10	.99	2.89	......	8,745	15,740		
Stineman No. 4 mine; Lower Kittanning (B) bed (right entry 8 off new dip entry, 37-inch cut.).	9037	A	1	1.4	12.5	78.6	7.5	1.00	......	......	......	......	.8	......	......	447	717
			2	......	12.5	79.9	7.6	1.00	......	......	......	......	......	......	......		
			3	......	13.5	86.5	......	1.05	......	......	......	......	......	......	......		
Same (pillar 9 on right entry 18 off main entry, 36½-inch cut).	9038	A	1	2.3	13.5	79.0	5.2	.55	......	......	......	......	1.7	8,150	14,670	447	717
			2	......	13.5	81.2	5.3	.55	......	......	......	......	......	8,345	15,020		
			3	......	14.5	85.5	......	.60	......	......	......	......	......	8,805	15,850		
Same (room 3, right slant off right entry 16 off main entry, 33-inch cut).	9039	A	1	3.4	13.0	76.1	7.5	1.15	......	......	......	......	2.7	......	......	447	717
			2	......	13.5	78.7	7.8	1.15	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	1.25	......	......	......	......	......	......	......		
Same (right entry 16 off main entry, 2½-foot cut).	9040	A	1	3.3	13.5	76.4	6.8	1.50	......	......	......	......	2.7	......	......	447	717
			2	......	14.0	79.0	7.0	1.55	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	1.70	......	......	......	......	......	......	......		
Same (composite of Nos. 9037, 9039, and 9040)...	9070	......	1	2.6	13.0	76.9	7.47	1.27	4.41	81.11	.96	4.78	2.1	7,880	14,190	447	717
			2	......	13.5	78.8	7.67	1.30	4.24	83.24	.99	2.56	......	8,085	14,560		
			3	......	14.5	85.5	......	1.41	4.59	90.16	1.07	2.77	......	8,760	15,760		
Stineman No. 6 mine, upper Kittanning (C′) bed, 42½-inch cut.	3785	B	1	2.81	15.07	72.64	9.48	1.92	......	......	......	......	2.2	......	......	316 447	718
			2	......	15.51	74.74	9.75	1.98	......	......	......	......	......	......	......		
			3	......	17.19	82.81	......	2.19	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
PENNSYLVANIA—Continued.																	
CAMBRIA COUNTY—continued.																	
South Fork—Continued.																	
Wickes mine, Brookville (A) bed, 3½-foot cut	3788	B	1	2.35	14.3	71.4	11.95	3.30	4.22	75.16	1.13	4.24	1.8	7,382	13,288	447	718
			2	......	14.64	73.12	12.24	3.38	4.05	76.95	1.16	2.21	......	7,560	13,608		
			3	......	16.69	83.31	......	3.85	4.62	87.70	1.32	2.51	......	8,614	15,505		
1 mile northwest of post office; Argyle No. 3 mine, Lower Kittanning (B) bed, 41-inch cut.	3787	B	1	2.24	15.7	78.37	3.69	.77	......	......	......	......	1.6	......	......	316	718
			2	......	16.06	80.17	3.77	.79	......	......	......	......	......	......	......	447	
			3	......	16.69	83.31	......	.82	......	......	......	......	......	......	......		
Van Ormer, Peerless No. 1 mine, Upper Freeport or E bed (straight entry, 3,000 feet from drift mouth, 31½-inch cut).	10275	A	1	3.37	23.45	63.43	9.75	1.05	......	......	......	......	2.3	7,534	13,561	447	719
			2	......	24.27	65.64	10.09	1.09	......	......	......	......	......	7,797	14,035		
			3	......	26.99	73.01	......	1.21	......	......	......	......	......	8,672	15,610		
Same (Gregg heading, 3,500 feet from drift mouth, 32½-inch cut).	10276	A	1	2.4	23.86	66.07	7.67	.68	......	......	......	......	1.5	7,842	14,116	......	719
			2	......	24.45	67.69	7.86	.70	......	......	......	......	......	8,035	14,463		
			3	......	26.54	73.46	......	.76	......	......	......	......	......	8,720	15,696		
Same (Bader heading, 4,500 feet from drift mouth, 33½-inch cut).	10277	A	1	2.03	24.55	64.72	8.7	.77	......	......	......	......	1.5	7,754	13,957	......	719
			2	......	25.06	66.06	8.88	.79	......	......	......	......	......	7,915	14,247		
			3	......	27.5	72.5	......	.87	......	......	......	......	......	8,687	15,637		
Same (composite of Nos. 10275-10277)	10281	A	1	2.73	24.98	63.64	8.65	.81	4.89	78.24	1.22	6.19	1.8	7,700	13,860	......	719
			2	......	25.68	65.43	8.89	.83	4.72	80.44	1.25	3.87	......	7,916	14,249		
			3	......	28.18	71.82	......	.91	5.18	88.29	1.37	4.25	......	8,689	15,640		
Peerless No. 2 mine, Lower Freeport or D bed (left heading 7, 3,500 feet from drift mouth, 32½-inch cut).	10272	A	1	2.39	23.69	62.71	11.21	2.44	......	......	......	......	1.7	7,444	13,399	......	720
			2	......	24.27	64.25	11.48	2.50	......	......	......	......	......	7,626	13,727		
			3	......	27.42	72.58	......	2.82	......	......	......	......	......	8,615	15,507		
Same (main heading, 4,000 feet from drift mouth, 37½-inch cut).	10273	A	1	2.21	24.7	62.68	10.41	2.10	......	......	......	......	1.6	7,563	13,613	......	720
			2	......	25.26	64.09	10.65	2.15	......	......	......	......	......	7,734	13,921		
			3	......	28.27	71.73	......	2.41	......	......	......	......	......	8,656	15,581		
Same (pillar on new haulage heading, 3,400 feet from drift mouth, 35½-inch cut).	10274	A	1	3.54	23.12	64.64	8.7	1.66	......	......	......	......	2.6	7,594	13,669	......	720
			2	......	23.97	67.02	9.01	1.72	......	......	......	......	......	7,873	14,171		
			3	......	26.34	73.66	......	1.89	......	......	......	......	......	8,652	15,574		
Same (composite of Nos. 10272 and 10273)	10280	A	1	2.31	24.4	62.47	10.82	2.34	4.74	76.11	1.33	4.66	1.7	7,482	13,468	......	720
			2	......	24.98	63.94	11.08	2.40	4.59	77.91	1.36	2.66	......	7,659	13,786		
			3	......	28.09	71.91	......	2.70	5.16	87.62	1.53	2.99	......	8,613	15,503		
Vintondale, Vinton No. 1 mine, Lower Kittanning or B bed, 43-inch cut.	3832	B	1	3.12	17.89	70.85	8.14	2.74	......	......	......	......	2.5	......	......	316	721
			2	......	18.47	73.13	8.4	2.83	......	......	......	......	......	......	......		
			3	......	20.16	79.84	......	3.09	......	......	......	......	......	......	......		

(Heading 10, off left entry 2, 6,000 feet from drift mouth, 40¾-inch cut).	322	A	1	2.32	22.43	70.06	5.19	1.27	......	......	......	......	......	8,136	14,644	......	721
			2	......	22.96	71.73	5.31	1.30	......	......	......	......	......	8,329	14,992		
			3	......	24.25	75.75	......	1.37	......	......	......	......	......	8,796	15,833		
Same (left heading 1, off dip entry 2, 4,000 feet from drift mouth, 40½-inch cut).	320	A	1	1.78	20.24	71.0	6.98	2.34	......	......	......	......	......	7,994	14,389	......	721
			2	......	20.61	72.28	7.11	2.38	......	......	......	......	......	8,139	14,650		
			3	......	22.19	77.81	......	2.56	......	......	......	......	......	8,762	15,771		
Same (heading 10, off right entry 4, 7,000 feet from drift mouth, 50¼-inch cut).	321	A	1	2.64	22.77	68.0	6.59	2.03	......	......	......	......	......	7,971	14,347	......	721
			2	......	23.39	69.84	6.77	2.09	......	......	......	......	......	8,187	14,736		
			3	......	25.09	74.91	......	2.24	......	......	......	......	......	8,781	15,806		
Same (slope 4, 2,500 feet from drift mouth, 42¼-inch cut).	318	A	1	3.04	17.58	72.38	7.0	1.97	......	......	......	......	......	7,876	14,176	......	721
			2	......	18.13	74.65	7.22	2.03	......	......	......	......	......	8,122	14,620		
			3	......	19.54	80.46	......	2.19	......	......	......	......	......	8,754	15,757		
Same (left heading 4, off dip entry 4, 3,500 feet from drift mouth, 41-inch cut).	319	A	1	1.93	19.45	70.41	8.21	3.41	......	......	......	......	......	7,854	14,138	......	721
			2	......	19.83	71.8	8.37	3.48	......	......	......	......	......	8,009	14,416		
			3	......	21.64	78.36	......	3.80	......	......	......	......	......	8,741	15,733		
Same (composite of Nos. 318–322)	10459	A	1	.91	19.89	72.05	7.15	2.36	4.73	81.06	1.32	3.38	......	......	......	......	721
			2	......	20.07	72.71	7.22	2.38	4.67	81.81	1.33	2.59	......	......	......		
			3	......	21.63	78.37	......	2.57	5.03	88.17	1.43	2.80	......	......	......		
Vinton No. 6 mine, Lower Kittanning or B bed (room 15, off left entry 5, 43¾-inch cut).	10257	A	1	3.11	18.42	72.65	5.82	1.27	......	......	......	......	2.4	7,989	14,380	......	......
			2	......	19.01	74.98	6.01	1.31	......	......	......	......	......	8,245	14,841		
			3	......	20.22	79.78	......	1.39	......	......	......	......	......	8,772	15,790		
Same (right entry 6, 40¾-inch cut)	10254	A	1	3.26	18.04	71.03	7.67	2.64	......	......	......	......	2.7	7,793	14,027	......	722
			2	......	18.65	73.42	7.93	2.73	......	......	......	......	......	8,056	14,501		
			3	......	20.26	79.74	......	2.97	......	......	......	......	......	8,750	15,750		
Same (main heading, 42-inch cut)	10256	A	1	4.57	17.98	70.85	6.6	2.11	......	......	......	......	4.0	7,772	13,990	......	722
			2	......	18.84	74.24	6.92	2.21	......	......	......	......	......	8,144	14,659		
			3	......	20.24	79.76	......	2.37	......	......	......	......	......	8,749	15,748		
Same (right entry 5, 44-inch cut)	10255	A	1	4.12	18.59	71.61	5.68	1.44	......	......	......	......	3.4	7,917	14,251	......	722
			2	......	19.39	74.69	5.92	1.50	......	......	......	......	......	8,257	14,863		
			3	......	20.61	79.39	......	1.59	......	......	......	......	......	8,776	15,797		
Same (composite of Nos. 10254–10257)	10271	A	1	3.63	18.63	71.2	6.54	1.98	4.90	80.59	1.23	4.76	3.1	7,844	14,119	......	722
			2	......	19.33	73.88	6.79	2.05	4.67	83.62	1.28	1.59	......	8,139	14,650		
			3	......	20.74	79.26	......	2.20	5.01	89.70	1.37	1.72	......	8,732	15,718		
Walsall (north of), Ingleside mine, Lower Kittanning (B) bed, bed about 7 feet 4 inches.	3839	B	1	2.81	14.66	75.75	6.78	1.33	......	......	......	......	1.9	......	......	316 447	723
			2	......	15.08	77.94	6.98	1.37	......	......	......	......	......	......	......		
			3	......	16.21	83.79	......	1.47	......	......	......	......	......	......	......		
Weber, near station, Commercial No. 4 mine on South Branch Blacklick Creek, Lower Kittanning (B) bed, heading 8, bed 5 feet 6 inches.	3831	B	1	2.8	17.3	73.28	6.62	2.46	......	......	......	......	2.0	......	......	316 447	723
			2	......	17.8	75.39	6.81	2.53	......	......	......	......	......	......	......		
			3	......	19.10	80.90	......	2.71	......	......	......	......	......	......	......		
Windber (Somerset County), 2 miles northwest of; Eureka No 37 mine, Lower Kittanning (B) bed (main air course, 8,300 feet from drift mouth, 44¼-inch cut).	8975	A	1	2.6	14.0	77.3	6.1	.80	......	......	......	......	2.0	......	......	316 447	724
			2	......	14.0	79.8	6.2	.80	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.85	......	......	......	......	......	......	......		
Same (pillar, right entry 18 off main entry, 7,400 feet from drift mouth, 39½-inch cut).	8976	A	1	2.4	14.5	75.0	8.1	1.90	......	......	......	......	1.9	7,890	14,200	447	724
			2	......	15.0	76.7	8.3	1.95	......	......	......	......	......	8,080	14,540		
			3	......	16.5	83.5	......	2.15	......	......	......	......	......	8,805	15,850		
Same (pillar, left entry 16 off main entry, 6,300 feet from drift mouth, 43¼-inch cut).	8977	A	1	3.8	12.5	78.1	5.6	.85	......	......	......	......	2.9	7,935	14,290	447	724
			2	......	13.0	81.2	5.8	.90	......	......	......	......	......	8,250	14,850		
			3	......	14.0	86.0	......	.95	......	......	......	......	......	8,755	15,760		
Same (north entry, 9,500 feet from drift mouth, 38-inch cut).	8978	A	1	3.3	13.5	77.2	6.0	.85	......	......	......	......	2.6	......	......	447	724
			2	......	14.0	79.8	6.2	.85	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.90	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
PENNSYLVANIA—Continued.																	
CAMBRIA COUNTY—continued.																	
Windber, **Eureka No. 37 mine**—Continued.																	
Same (left entry 2 off northwest drift, 4,500 feet from drift mouth, 53¾-inch cut).	8979	A	1	3.2	14.0	75.4	7.4	1.40	......	......	......	......	2.5	......	......	447	724
			2	......	14.0	78.3	7.7	1.45	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	1.60	......	......	......	......	......	......	......		
Same (main north entry 2, 9,000 feet from drift mouth, 40¼-inch cut).	8980	A	1	3.2	12.5	78.6	5.7	1.05	......	......	......	......	2.5	......	......	447	724
			2	......	13.0	81.1	5.9	1.10	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	1.15	......	......	......	......	......	......	......		
Same (composite of 8975, 8978, 8979, 8980)	9028	......	1	3.3	12.5	77.9	6.33	1.04	4.46	81.65	1.27	5.25	2.4	7,965	14,340	447	724
			2	......	12.5	81.0	6.54	1.07	4.24	84.39	1.31	2.45	......	8,235	14,820		
			3	......	13.5	86.5	......	1.14	4.54	90.30	1.40	2.62	......	8,810	15,860		
Same (3½-foot cut)	3835	B	1	2.31	13.99	76.69	7.01	1.19	......	......	......	......	1.6	......	......	316	724
			2	......	14.32	78.5	7.18	1.22	......	......	......	......	......	......	......	447	
			3	......	15.43	84.57	......	1.31	......	......	......	......	......	......	......		
Eureka No. 40 mine; Lower Kittanning (B) bed (pillar 6, right entry 1, off right entry 3, off main entry, 1,600 feet N. 45° E. from drift mouth, 38-inch cut).	8919	A	1	3.0	13.0	76.5	7.5	.55	......	......	......	......	2.5	......	......	447	725
			2	......	13.0	79.3	7.7	.60	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.65	......	......	......	......	......	......	......		
Same (pillar 20, right entry 6, off main entry, 3,000 feet N. 25° E. of drift mouth, 46-inch cut).	8917	A	1	2.6	14.0	74.8	8.6	3.00	......	......	......	......	1.9	......	......	447	725
			2	......	14.5	76.7	8.8	3.10	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	3.40	......	......	......	......	......	......	......		
Same (left entry 6, off right entry 6, off main entry, 4,500 feet N. 45° E. from drift mouth, 46-inch cut).	8915	A	1	3.1	13.5	74.8	8.6	1.60	......	......	......	......	2.4	......	......	447	725
			2	......	14.0	77.1	8.9	1.65	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	1.80	......	......	......	......	......	......	......		
Same (left entry 3, off right entry 7, off main entry, 4,900 feet N. 25° E. from drift mouth, 4-foot cut).	8914	A	1	2.8	13.0	77.1	7.1	1.35	......	......	......	......	2.1	......	......	447	725
			2	......	13.5	79.2	7.3	1.40	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	1.50	......	......	......	......	......	......	......		
Same (main air course, 6,100 feet N. 15° E. from drift mouth, 46½-inch cut).	8916	A	1	2.9	14.0	76.9	6.2	.85	......	......	......	......	2.2	......	......	447	725
			2	......	14.5	79.1	6.4	.85	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.90	......	......	......	......	......	......	......		
Same (left entry 12, off main entry, 4,600 feet north of drift mouth, 46-inch cut).	8913	A	1	3.3	13.0	76.3	7.4	1.35	......	......	......	......	2.6	......	......	447	725
			2	......	13.5	78.8	7.7	1.40	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	1.50	......	......	......	......	......	......	......		
Same (pillar 20, left entry 9, off main entry, 3,500 feet N. 8° W. from drift mouth, 3¾-foot cut).	8918	A	1	2.3	14.5	76.5	6.7	.75	......	......	......	......	1.7	......	......	447	725
			2	......	15.0	78.2	6.8	.75	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.80	......	......	......	......	......	......	......		
Same (composite of Nos. 8913–8916)	9031	......	1	2.9	12.5	77.3	7.3	1.37	4.30	80.19	1.32	5.52	2.3	7,870	14,170	447	725
			2	......	13.0	79.5	7.52	1.41	4.09	82.62	1.36	3.01	......	8,110	14,590		
			3	......	14.0	86.0	......	1.52	4.42	89.34	1.47	3.25	......	8,765	15,780		

Same (composite of Nos. 8917–8919)	9032		1	2.8	14.0	75.4	7.79	1.38	4.38	80.29	1.25	4.91	2.0	7,850	14,130	447	725
			2		14.5	77.5	8.01	1.42	4.19	82.60	1.29	2.49		8,075	14,540		
			3		15.5	84.5		1.54	4.55	89.79	1.40	2.72		8,780	15,800		
Eureka No. 37-C′ mine, Upper Kittanning (C′) bed (main entry, 3,900 feet from drift mouth, 53½-inch cut).	8981	A	1	3.3	13.0	76.4	7.3	2.05					2.7			447	725
			2		13.5	79.0	7.5	2.10									
			3		14.5	85.5		2.30									
Same (right entry 7, 3,500 feet from drift mouth, 47-inch cut).	8982	A	1	3.1	13.5	75.9	7.5	1.80					2.3			447	725
			2		14.0	78.3	7.7	1.85									
			3		15.0	85.0		2.00									
Same (entry 4 off right entry 4, 3,260 feet from drift mouth, 48½-inch cut).	8983	A	1	3.0	12.0	77.4	7.6	1.80					2.3			447	725
			2		12.5	79.7	7.8	1.85									
			3		13.5	86.5		2.05									
Same (composite of Nos. 8981–8983)	9029		1	3.3	12.5	76.7	7.58	1.97	4.34	79.69	1.37	5.05	2.4	7,810	14,060	447	725
			2		12.5	79.7	7.84	2.04	4.11	82.42	1.42	2.17		8,080	14,540		
			3		14.0	86.0		2.21	4.46	89.43	1.54	2.36		8,765	15,780		
4½ miles east of; Eureka No. 42 mine, Lower Kittanning (B or Miller) bed (main heading C, 700 feet north, 40-inch cut).	6271	A	1	3.75	15.2	76.93	4.12	.89					3.0	8,058	14,504	447	727
			2		15.7	79.93	4.28	.92						8,372	15,070		
			3		16.50	83.50		.96						8,746	15,743		
Same (room 9 off right entry 1, main heading, 1,000 feet north, 39-inch cut).	6272	A	1	3.19	14.95	77.65	4.21	.80					2.4	8,104	14,587	447	727
			2		15.44	80.21	4.35	.83						8,371	15,068		
			3		16.14	83.86		.86						8,751	15,752		
Same (left entry 1 off main heading, 600 feet west, 42-inch cut).	6273	A	1	2.98	15.35	77.06	4.61	1.08					2.3	8,072	14,530	447	727
			2		15.82	79.43	4.75	1.11						8,320	14,976		
			3		16.61	83.39		1.17						8,735	15,723		
Same (main entry, 2½-foot cut)	8999	A	1	3.7	13.5	78.6	4.2	.85					2.8			447	727
			2		14.0	81.6	4.4	.85									
			3		14.5	85.5		.90									
Same (right entry 2 off main, 33½-inch cut)	9000	A	1	3.1	13.0	79.0	4.9	.80					2.4			447	727
			2		13.0	82.0	5.0	.85									
			3		14.0	86.0		.85									
Same (right entry 1 off main, near left 6, 42½-inch cut).	9001	A	1	3.2	12.5	80.6	3.7	.60					2.4			447	727
			2		13.0	83.2	3.8	.65									
			3		13.5	86.5		.65									
Same (right entry 3 off left 1 off main, 41-inch cut).	9002	A	1	3.5	13.0	78.4	5.1	1.55					2.6			447	727
			2		13.5	81.2	5.3	1.60									
			3		14.0	86.0		1.70									
Same (composite of Nos. 8999–9002)	9051		1	3.4	12.5	79.4	4.66	.99	4.56	83.42	1.10	5.27	2.6	8,065	14,520	447	727
			2		13.0	82.2	4.82	1.02	4.33	86.31	1.14	2.38		8,345	15,020		
			3		14.0	86.0		1.07	4.55	90.68	1.20	2.50		8,765	15,780		
Eureka No. 42-C′ mine, Upper Kittanning (C′) bed (right entry 2 off main entry, 1,000 feet N. 55° E. of drift mouth, 51½-inch cut).	9003	A	1	3.0	13.0	76.1	7.93	1.13	4.54	79.81	1.36	5.23	2.1	7,820	14,080	447	728
			2		13.5	78.3	8.18	1.16	4.34	82.28	1.40	2.64		8,065	14,520		
			3		14.5	85.5		1.26	4.73	89.61	1.52	2.88		8,785	15,810		
CENTRE COUNTY.																	
Osceola Mills, ¼ mile east of; No. 10 mine, 8,000 feet in (room 20, main dip heading, Lower Kittanning B (51-inch) bed, 43-inch cut).	8481	B	1	2.08	21.46	69.87	6.59	1.99	4.92	80.58	1.29	4.63	1.5	7,930	14,274		729
			2		21.91	71.36	6.73	2.03	4.79	82.29	1.32	2.84		8,098	14,576		
			3		23.49	76.51		2.18	5.14	88.23	1.42	3.03		8,682	15,628		
CLARION COUNTY.																	
Blue Ball station, Goss mine, 500 feet in, room off main heading, Brookville or A bed, 53-inch bed.	8487	B	1	1.9	22.0	66.3	9.8	1.95	4.66	78.05	1.14	4.40	1.2	7,645	13,760		729
			2		22.5	67.5	10.0	1.99	4.54	79.58	1.16	2.73		7,795	14,030		
			3		25.0	75.0		2.21	5.05	88.45	1.29	3.00		8,655	15,590		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
PENNSYLVANIA—Continued.																	
CLARION COUNTY—continued.																	
Clarion, 1½ miles northwest of; near Clarion Junction, Cook prospect, 100 feet in, Clarion bed, 100 feet from mouth, 35½-inch cut.	4173	B	1	4.84	37.86	50.28	7.02	3.98	....	....	....	....	3.2	....	....	316 454	729
			2	....	39.79	52.83	7.38	4.18	....	....	....	....	....	....	....		
			3	....	42.96	57.04	....	4.51	....	....	....	....	....	....	....		
Fairmount City, 1½ miles northeast of; 1 mile north of Oak Ridge, No. 1 mine 200 feet in, Lower Kittanning (40¾-inch) bed, 39½-inch cut.	4170	B	1	2.73	34.77	52.20	10.3	3.66	....	....	....	....	1.3	....	....	316 454	729
			2	....	35.75	53.66	10.59	3.76	....	....	....	....	....	....	....		
			3	....	39.98	60.02	....	4.21	....	....	....	....	....	....	....		
2 miles northeast of; Fairmount No. 11 mine, 100 feet in, Upper Freeport bed, 49½-inch cut.	4171	B	1	5.56	30.72	57.14	6.58	1.10	....	....	....	....	3.3	....	....	316 454	730
			2	....	32.53	60.5	6.97	1.16	....	....	....	....	....	....	....		
			3	....	34.97	65.03	....	1.25	....	....	....	....	....	....	....		
New Bethlehem, 1 mile northwest of; Shenkle country bank, Upper Kittanning (48½-inch) bed.	4177	B	1	4.09	30.24	57.37	8.3	1.01	....	....	....	....	2.1	....	....	316 454	731
			2	....	31.53	59.82	8.65	1.05	....	....	....	....	....	....	....		
			3	....	34.52	65.48	....	1.15	....	....	....	....	....	....	....		
3 miles northeast of; northeast of Fairmount City, Fairmount No. 12 mine, 200 feet in, Lower Freeport bed.	4172	B	1	3.30	33.79	56.83	6.08	2.73	....	....	....	....	1.8	....	....	316 454	731
			2	....	34.94	58.77	6.29	2.82	....	....	....	....	....	....	....		
			3	....	37.28	62.72	....	3.01	....	....	....	....	....	....	....		
Rimersburg, 3½ miles northeast of; 4 miles southeast of Sligo, Mohney country bank, Upper Kittanning (2½-foot) bed, 26½-inch cut.	4176	B	1	5.89	30.46	48.66	14.99	1.60	....	....	....	....	3.9	....	....	316 454	732
			2	....	32.37	51.70	15.93	1.70	....	....	....	....	....	....	....		
			3	....	38.50	61.50	....	2.02	....	....	....	....	....	....	....		
Rimersburg, 1 mile south of; Acme mine, 800 feet in, Lower Kittanning bed, 43-inch cut.	4055	B	1	4.09	34.79	55.32	5.8	2.39	....	....	....	....	2.6	....	....	316 454	732
			2	....	36.27	57.68	6.05	2.49	....	....	....	....	....	....	....		
			3	....	38.61	61.39	....	2.65	....	....	....	....	....	....	....		
Sligo, ⅛ mile west of; Sligo mine, 200 feet in, Brookville (35¼-inch) bed, 34-inch cut.	3953	B	1	2.35	37.47	49.01	11.17	4.04	....	....	....	....	1.1	7,288	13,118	316 454	732
			2	....	38.37	50.19	11.44	4.15	....	....	....	....	....	7,464	13,435		
			3	....	43.33	56.67	....	4.69	....	....	....	....	....	8,427	15,169		
0.8 mile north of; Shorb pit, 350 feet in, Lower Kittanning bed.	3951	B	1	3.36	35.94	52.05	8.65	2.30	....	....	....	....	1.7	....	....	316 454	733
			2	....	37.19	53.86	8.95	2.38	....	....	....	....	....	....	....		
			3	....	40.85	59.15	....	2.61	....	....	....	....	....	....	....		
2¼ miles southeast of; Saylor country bank, Upper Freeport (46-inch) bed, 39-inch cut.	4111	B	1	3.98	33.7	54.50	7.82	2.18	....	....	....	....	2.3	....	....	316 454	733
			2	....	35.1	56.76	8.14	2.27	....	....	....	....	....	....	....		
			3	....	38.21	61.79	....	2.47	....	....	....	....	....	....	....		
Strattonville, 2 miles southeast of; Baldauf No. 1 mine, Lower Kittanning (38½-inch) bed, 3-foot cut.	4116	B	1	2.87	34.51	54.31	8.31	1.36	....	....	....	....	1.0	....	....	316 454	733
			2	....	35.53	55.91	8.56	1.40	....	....	....	....	....	....	....		
			3	....	38.86	61.14	....	1.53	....	....	....	....	....	....	....		
CLEARFIELD COUNTY.																	
Gassam, Gassam No. 1 mine, 8,000 feet in, off left entry 9, Lower Freeport or D bed, 3-foot cut.	8483	B	1	1.9	23.0	68.9	6.2	1.37	4.99	80.95	1.33	5.16	1.1	7,990	14,390	......	734
			2	....	23.5	70.1	6.4	1.40	4.86	82.54	1.36	3.44	....	8,150	14,670		
			3	....	25.0	75.0	....	1.50	5.19	88.14	1.45	3.72	....	8,700	15,660		

Graham, ½ mile northwest of; Middle Kittanning or C bed (Guion mine, 6,000 feet in, end of straight heading 4, 62-inch bed).	8484	B	1	2.7	20.0	67.1	10.2	2.00	4.81	76.92	1.26	4.81	1.9	7,560	13,610	......	734
			2	......	21.0	68.5	10.5	2.05	4.64	79.01	1.29	2.51	......	7,765	13,970		
			3	......	23.0	77.0	......	2.29	5.18	88.23	1.44	2.86	......	8,670	15,610		
Same (Harkley mine. 2,700 feet in, room at end of main heading, beyond entry 7, B (3-foot) bed; coal, 3 feet).	8485	B	1	6.2	19.5	65.8	8.5	3.19	5.02	75.09	1.02	7.18	5.5	7,414	13,350	......	735
			2	......	20.5	70.5	9.0	3.40	4.62	80.07	1.09	1.82	......	7,905	14,230		
			3	......	22.5	77.5	......	3.74	5.08	88.00	1.20	1.98	......	8,690	15,640		
Grampian, ½ mile west of; Grampian No. 3 mine, 500 feet in, off main heading, Lower Freeport or D bed.	8482	B	1	4.1	23.0	66.8	6.1	1.91	5.21	78.46	1.11	7.17	3.2	7,780	14,000	......	735
			2	......	24.0	69.6	6.4	1.99	4.96	81.83	1.16	3.66	......	8,110	14,600		
			3	......	26.0	74.0	......	2.13	5.29	87.43	1.24	3.91	......	8,665	15,600		
La Jose. 1½ miles west of; 4½ miles northwest of Burnside, Clearfield No. 1 mine, Upper Freeport bed (heading 5, 1,700 feet southwest of opening, 32-inch cut).	5227	A	1	3.27	24.61	62.74	9.38	2.47	......	......	......	......	2.1	7,571	13,628	......	735
			2	......	25.44	64.86	9.7	2.55	......	......	......	......	......	7,827	14,089		
			3	......	28.17	71.83	2.82	......	......	......	......	......	......	8,668	15,602		
Same (room 5 off heading 7, 1,700 feet west of opening, 27⅜-inch cut).	5233	A	1	3.34	23.7	65.1	7.86	1.39	......	......	......	......	2.1	7,727	13,909	......	735
			2	......	24.52	67.35	8.13	1.44	......	......	......	......	......	7,994	14,389		
			3	......	26.69	73.31	......	1.57	......	......	......	......	......	8,701	15,662		
Madera, Sylvania No. 1, 5,000 feet in, right entry 1, 5-foot 11-inch cut, Brookville or A bed.	8490	B	1	2.4	20.5	70.8	6.3	1.66	4.86	80.93	1.42	4.87	1.6	7,960	14,330	......	735
			2	......	21.0	72.6	6.4	1.70	4.70	82.92	1.45	2.82	......	8,155	14,680		
			3	......	22.5	77.5	......	1.82	5.02	88.60	1.55	3.01	......	8,715	15,690		
Moshannon, ½ mile north of; pillars of small mine, 500 feet in, close to big fault, Lower Freeport D, or Moshannon bed, 5-foot cut.	8488	B	1	2.9	20.5	72.0	4.6	.77	5.00	82.79	1.37	5.49	2.1	8,060	14,510	......	736
			2	......	21.5	73.8	4.7	.79	4.81	85.30	1.41	2.93	......	8,305	14,850		
			3	......	22.5	77.5	......	.83	5.05	89.53	1.48	3.11	......	8,715	15,690		
¼ mile southeast of; Union No. 3 mine, 1,000 feet from mouth, left entry 2, off main (A 67½-inch) bed, 46-inch cut.	8480	B	1	2.76	20.74	67.57	8.93	2.85	4.97	77.59	.97	4.69	1.9	7,671	13,806	......	736
			2	......	21.33	69.49	9.18	2.93	4.79	79.79	1.00	2.31	......	7,888	14,198		
			3	......	23.49	76.51	......	3.23	5.27	87.86	1.10	2.54	......	8,685	15,633		
Phillipsburg (Center County), 3½ miles southwest of; Acme No. 2 mine, Lower Kittanning or B bed (left heading 3 off Hawk Run entry, ½ mile southwest of entrance, 46-inch cut).	10258	A	1	3.84	19.62	69.25	7.29	2.51	......	......	......	......	3.4	7,732	13,918	......	737
			2	......	20.40	72.02	7.58	2.61	......	......	......	......	......	8,041	14,474		
			3	......	22.07	77.93	......	2.82	......	......	......	......	......	8,700	15,660		
Same (last room off left entry 1 off Hawk Run entry, about three-eighths mile southwest of entrance, 34-inch cut).	10259	A	1	2.76	19.70	69.81	7.73	2.24	......	......	......	......	2.3	7,799	14,038	......	737
			2	......	20.26	71.79	7.95	2.30	......	......	......	......	......	8,020	14,436		
			3	......	22.01	77.99	......	2.50	......	......	......	......	......	8,713	15,683		
Same (composite of Nos. 10258 and 10259)......	10264	A	1	3.37	19.85	69.25	7.53	2.39	4.84	78.90	1.27	5.07	2.9	7,748	13,946	......	737
			2	......	20.54	71.67	7.79	2.47	4.63	81.65	1.31	2.15	......	8,018	14,432		
			3	......	22.28	77.72	......	2.68	5.02	88.55	1.42	2.33	......	8,696	15,653		
Same (pillar in room 1, Packer heading, about ¾ mile northeast of entrance, 37-inch cut).	10260	A	1	2.26	20.55	69.80	7.39	1.50	......	......	......	......	1.7	7,899	14,218	......	737
			2	......	21.02	71.42	7.56	1.53	......	......	......	......	......	8,081	14,546		
			3	......	22.74	77.26	......	1.66	......	......	......	......	......	8,742	15,736		
Same (pillar in room 1 off left entry 3 off Lucky 2½ entry, about ¾ mile northeast of entrance, 30-inch cut).	10261	A	1	3.12	20.17	69.17	7.54	1.97	......	......	......	......	2.5	7,779	14,002	......	737
			2	......	20.82	71.40	7.78	2.03	......	......	......	......	......	8,029	14,452		
			3	......	22.58	77.42	......	2.20	......	......	......	......	......	8,707	15,673		
Same (composite of Nos. 10260 and 10261)......	10265	A	1	2.80	20.21	69.60	7.39	1.67	5.00	79.88	1.34	4.72	2.1	7,822	14,080	......	737
			2	......	20.79	71.61	7.60	1.72	4.83	82.18	1.38	2.29	......	8,047	14,485		
			3	......	22.50	77.50	......	1.86	5.23	88.94	1.49	2.48	......	8,709	15,677		
Smoke run, ½ mile west of; Eureka No. 22 mine, 2,600 **feet in, w**est entry 1 off main heading, D **"lower sp**lit" 32-inch bed, 32-inch cut.	8489	B	1	3.2	21.0	69.3	6.5	.69	4.85	79.90	1.33	6.76	2.2	7,815	14,060	......	738
			2	......	22.0	71.3	6.7	.71	4.65	82.53	1.37	4.06	......	8,070	14,530		
			3	......	23.5	76.5	......	.76	4.98	88.44	1.47	4.35	......	8,650	15,570		
Woodland, ½ mile southwest of; Plane mine, right en**try 1 off r**ight heading 1, Upper Kittanning **or C′ (7-fo**ot 7-inch) bed, 3-foot cut.	8486	B	1	3.2	23.5	65.8	7.5	3.77	4.88	77.68	1.24	4.92	2.6	7,745	13,940	......	738
			2	......	24.5	67.7	7.8	3.89	4.68	80.20	1.28	2.20	......	7,995	14,390		
			3	......	26.5	73.5	......	4.22	5.07	86.94	1.39	2.38	......	8,665	15,600		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
PENNSYLVANIA—Continued.																	
FAYETTE COUNTY.																	
Connellsville, 2 miles southwest of; Leisenring No. 1 mine, Pittsburgh bed (6,500 feet northwest of opening, 89-inch cut).	4411	A	1	2.40	29.90	60.48	7.22	0.97	......	......	......	......	1.4	......	......	332	738
			2	......	30.64	61.96	7.40	.99	......	......	......	......	......	......	......	336	
			3	......	33.09	66.91	......	1.07	......	......	......	......	......	......	......		
Same (9,000 feet northwest of opening, 91⅞-inch cut).	4412	A	1	2.82	29.97	59.84	7.37	1.22	......	......	......	......	1.8	7,773	13,991	332	738
			2	......	30.84	61.58	7.58	1.26	......	......	......	......	......	7,998	14,396	336	
			3	......	33.37	66.63	......	1.36	......	......	......	......	......	8,655	15,579		
Same (run of mine)	4609	C	1	5.13	27.87	58.29	8.71	.86	4.91	73.18	1.50	10.89	4.2	7,425	13,365	332	......
			2	......	29.38	61.44	9.18	.91	4.57	77.09	1.58	6.67	......	7,827	14,089		
			3	......	32.35	67.65	......	1.00	5.04	84.87	1.74	7.35	......	8,617	15,511		
Same (butt parallel entry 2, right entry 6, 7,500 feet north of opening, 98½-inch cut).	5236	A	1	3.24	27.13	62.52	7.11	.95	5.24	78.00	1.23	7.47	1.8	7,733	13,919	......	738
			2	......	28.04	64.61	7.35	.98	4.99	80.61	1.27	4.80	......	7,992	14,386		
			3	......	30.26	69.74	......	1.06	5.39	87.00	1.37	5.18	......	8,626	15,527		
Same (2½ miles south of opening, butt entry 6 off rib 7, 83-inch cut).	7594	A	1	2.66	28.65	60.44	8.25	.71	......	......	......	......	1.6	7,570	13,626	......	738
			2	......	29.43	62.09	8.48	.73	......	......	......	......	......	7,778	14,000		
			3	......	32.16	67.84	......	.80	......	......	......	......	......	8,499	15,298		
East Millsboro, Hustead mine, Pittsburgh bed (butt entry 5, 900 feet from bottom of slope, 6¾-foot cut).	1968	A	1	4.08	32.44	53.98	9.50	1.64	......	......	......	......	2.9	7,371	13,268	290	740
			2	......	33.82	56.28	9.90	1.71	......	......	......	......	......	7,684	13,831	336	
			3	......	37.54	62.46	......	1.90	......	......	......	......	......	8,529	15,350	18	
Same (butt entry 1, 1,300 feet north of bottom of slope, 81⅝-inch cut).	1970	A	1	2.81	33.88	54.68	8.63	2.00	......	......	......	......	1.5	......	......	290	740
			2	......	34.86	56.26	8.88	2.06	......	......	......	......	......	......	......	28	
			3	......	38.26	61.74	......	2.26	......	......	......	......	......	......	......		
Same (run of mine, sample 1)	2161	C	1	3.24	31.78	52.46	12.52	1.94	4.80	71.41	1.24	8.09	2.0	7,155	12,879	290	......
			2	......	32.84	54.22	12.94	2.00	4.59	73.80	1.28	5.39	......	7,395	13,311		
			3	......	37.72	62.28	......	2.30	5.27	84.77	1.47	6.19	......	8,494	15,289		
Same (run of mine, sample 2)	2176	C	1	3.46	31.80	51.74	13.00	1.95	......	......	1.20	......	2.4	......	......	290	......
			2	......	32.94	53.59	13.47	2.02	......	......	1.24	......	......	......	......		
			3	......	38.07	61.93	......	2.33	......	......	1.43	......	......	......	......		
GREENE COUNTY.																	
Durbin, Crabapple mine, Waynesburg (5¼-foot) bed, 3-foot cut.	1585	B	1	2.79	36.05	48.35	12.81	3.47	......	......	......	......	1.2	......	......	*48*	741
			2	......	37.08	49.74	13.18	3.57	......	......	......	......	......	......	......		
			3	......	42.71	57.29	......	4.11	......	......	......	......	......	......	......		
Ryerson station, country bank, Washington (51½-inch) bed, 33-inch (lower bench) cut.	1239	B	1	2.22	36.79	46.96	14.03	3.79	......	......	......	......	......	......	......	300	741
			2	......	37.63	48.02	14.35	3.88	......	......	......	......	......	......	......	*48*	
			3	......	43.93	56.07	......	4.53	......	......	......	......	......	......	......		
HUNTINGDON COUNTY.																	
Jacobs, Barnett mine, Barnett, Lower Kittanning or B bed, level heading, about 600 feet from entrance, 35½-inch cut.	10319	A	1	2.09	18.20	73.46	6.25	.81	......	......	......	......	1.6	8,008	14,414	......	742
			2	......	18.59	75.03	6.38	.83	......	......	......	......	......	8,179	14,722		
			3	......	19.86	80.14	......	.89	......	......	......	......	......	8,736	15,725		

Jacobs mine, Fulton bed (last room off dip air course, about 1,000 feet from entrance, 60-inch cut).	10315	A	1	1.74	17.53	72.44	8.29	1.78	......	......	......	......	1.3	7,843	14,117	......	742
			2	......	17.84	73.72	8.44	1.81	......	......	......	......	......	7,983	14,369		
			3	......	19.48	80.52	......	1.98	......	......	......	......	......	8,719	15,694		
Same (level heading, about 3,300 feet from entrance, 46-inch cut).	10316	A	1	1.96	17.40	72.04	8.60	1.54	......	......	......	......	1.5	7,763	13,973	......	742
			2	......	17.75	73.48	8.77	1.57	......	......	......	......	......	7,918	14,252		
			3	......	19.46	80.54	......	1.72	......	......	......	......	......	8,679	15,622		
Same (room 31 off level heading, 2,800 feet from entrance, 45½-inch cut).	10317	A	1	1.60	17.61	72.20	8.59	1.48	......	......	......	......	1.2	7,828	14,090	......	742
			2	......	17.90	73.38	8.72	1.50	......	......	......	......	......	7,956	14,321		
			3	......	19.61	80.39	......	1.64	......	......	......	......	......	8,716	15,689		
Same (composite of Nos. 10315-10317)..........	10333	A	1	1.65	17.48	72.26	8.61	1.55	4.61	80.64	1.35	3.24	1.3	7,820	14,076	......	742
			2	......	17.77	73.48	8.75	1.58	4.50	81.99	1.37	1.81	......	7,951	14,311		
			3	......	19.47	80.53	......	1.73	4.93	89.85	1.50	1.99	......	8,713	15,683		
3½ miles south of; Starr mine, Fulton bed, west rib near face of right heading, about 150 feet from entrance, 55½-inch cut.	10318	A	1	3.00	17.13	71.78	8.09	1.05	......	......	......	......	1.9	7,664	13,795	......	743
			2	......	17.66	74.00	8.34	1.08	......	......	......	......	......	7,901	14,222		
			3	......	19.27	80.73	......	1.18	......	......	......	......	......	8,620	15,516		
INDIANA COUNTY.																	
Clymer, 1 mile from, Rodkey mine (1,400 feet from pit mouth, 38½-inch bed, 36½-inch cut). Lower Kittanning bed.	7969	B	1	2.06	24.46	66.09	7.39	2.19	5.08	79.39	1.19	4.76	1.3	7,872	14,170	......	744
			2	......	24.97	67.48	7.55	2.24	4.95	81.06	1.21	2.99	......	8,037	14,467		
			3	......	27.01	72.99	......	2.42	5.35	87.68	1.31	3.24	......	8,694	15,649		
Same (main entry, 39½-inch bed, 37½-inch cut).	7971	B	1	2.31	25.81	65.97	5.91	1.53	......	......	......	......	1.6	7,977	14,359	......	744
			2	......	26.42	67.53	6.05	1.57	......	......	......	......	......	8,165	14,697		
			3	......	28.12	71.88	......	1.67	......	......	......	......	......	8,691	15,644		
Penn-Mary No. 1 mine, Upper Freeport bed (right heading 3, off town drift, 48¼-inch bed, 38-inch cut).	7972	B	1	3.62	23.55	67.38	5.45	1.30	4.98	79.80	1.31	7.16	2.7	7,889	14,200	......	744
			2	......	24.44	69.91	5.65	1.35	4.75	82.80	1.36	4.09	......	8,186	14,735		
			3	......	25.90	74.10	......	1.43	5.03	87.76	1.44	4.34	......	8,676	15,617		
Same (right heading 1, 61-inch bed, 39-inch cut).	7973	B	1	3.98	23.37	67.46	5.19	.85	......	......	......	......	3.0	7,880	14,184	......	744
			2	......	24.34	70.26	5.40	.89	......	......	......	......	......	8,206	14,771		
			3	......	25.73	74.27	......	.94	......	......	......	......	......	8,675	15,615		
Glen Campbell, Banks Township, Glenwood No. 9 mine, Upper Kittanning (C') bed (right cross heading 1, 2,600 feet northwest of opening, 44¼-inch cut).	5224	A	1	3.46	23.09	67.17	6.28	1.03	......	......	......	......	2.8	7,808	14,054	......	745
			2	......	23.92	69.57	6.51	1.07	......	......	......	......	......	8,088	14,558		
			3	......	25.58	74.42	......	1.14	......	......	......	......	......	8,651	15,572		
Same (room 37 off right entry 2, 2,900 feet northwest of opening, 38¼-inch cut).	5228	A	1	3.28	23.35	67.70	5.67	.93	......	......	......	......	1.7	7,920	14,256	......	745
			2	......	24.14	70.00	5.86	.96	......	......	......	......	......	8,189	14,740		
			3	......	25.64	74.36	......	1.02	......	......	......	......	......	8,698	15,656		
2 miles northeast of; on Horton Run, Indiana No. 2 mine, Lower Freeport (D) bed, right heading 2, 1,000 feet north of opening, 30½-inch cut.	5222	A	1	3.37	23.96	65.94	6.73	.66	......	......	......	......	2.4	7,862	14,152	......	745
			2	......	24.80	68.24	6.96	.68	......	......	......	......	......	8,136	14,645		
			3	......	26.66	73.34	......	.73	......	......	......	......	......	8,745	15,741		
2 miles from; on Horton Run, Indiana No. 3 mine, Upper Freeport bed (right heading 10, 3,000 feet west of opening, 46¼-inch cut).	5225	A	1	2.74	27.55	60.68	9.03	1.63	......	......	......	......	1.6	7,708	13,874	......	746
			2	......	28.33	62.39	9.28	1.68	......	......	......	......	......	7,925	14,265		
			3	......	31.23	68.77	......	1.85	......	......	......	......	......	8,736	15,725		
Same (back heading off straight heading, 40¼-inch cut).	5229	A	1	2.85	25.60	63.20	8.35	2.10	......	......	......	......	1.2	7,709	13,876	......	746
			2	......	26.35	65.06	8.59	2.16	......	......	......	......	......	7,935	14,283		
			3	......	28.83	71.17	......	2.36	......	......	......	......	......	8,681	15,626		
Homer City, 1 mile east of; Lucerne No. 1 mine, Upper Freeport or E bed (right entry 3, 3,000 feet east of drift mouth, 62-inch cut).	10306	A	1	2.98	27.38	60.44	9.20	3.26	......	......	......	......	2.2	7,577	13,639	......	746
			2	......	28.22	62.30	9.48	3.36	......	......	......	......	......	7,810	14,058		
			3	......	31.17	68.83	......	3.71	......	......	......	......	......	8,628	15,530		
Same (right entry 7, 2,500 feet northeast of drift mouth, 68-inch cut).	10307	A	1	2.36	27.57	60.11	9.96	2.95	......	......	......	......	1.6	7,555	13,599	......	746
			2	......	28.24	61.56	10.20	3.02	......	......	......	......	......	7,738	13,928		
			3	......	31.45	68.55	......	3.36	......	......	......	......	......	8,617	15,511		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
PENNSYLVANIA—Continued.																	
INDIANA COUNTY—continued.																	
Homer City, Lucerne No. 1 mine—Continued.																	
Same (right entry 11, 3,500 feet northeast of drift mouth, 68-inch cut).	10308	A	1	3.01	25.72	63.59	7.68	1.22	......	......	......	......	2.2	7,749	13,948	......	746
			2	......	26.52	65.56	7.92	1.26	......	......	......	......	......	7,989	14,380		
			3	......	28.80	71.20	......	1.37	......	......	......	......	......	8,676	15,617		
Same (back heading, 3,500 feet northeast of drift mouth, 67-inch cut).	10309	A	1	3.15	26.12	63.01	7.72	2.32	......	......	......	......	2.5	7,685	13,833	......	746
			2	......	26.97	65.06	7.97	2.40	......	......	......	......	......	7,935	14,283		
			3	......	29.31	70.69	......	2.61	......	......	......	......	......	8,622	15,520		
Same (left entry 5, 3,200 feet north of drift mouth, 59½-inch cut).	10310	A	1	5.32	26.01	62.77	5.90	1.41	......	......	......	......	4.5	7,670	13,806	......	746
			2	......	27.47	66.30	6.23	1.49	......	......	......	......	......	8,101	14,582		
			3	......	29.29	70.71	......	1.59	......	......	......	......	......	8,639	15,550		
Same (left entry 3, 3,000 feet northwest of drift mouth, 63-inch cut).	10311	A	1	3.18	26.56	61.97	8.29	2.18	......	......	......	......	2.5	7,658	13,784	......	746
			2	......	27.43	64.01	8.56	2.25	......	......	......	......	......	7.909	14,236		
			3	......	30.00	70.00	......	2.46	......	......	......	......	......	8,649	15,568		
Same (right heading 7 off left entry 1, 3,000 feet northwest of drift mouth, 56-inch cut).	10312	A	1	4.11	26.24	62.29	7.36	1.89	......	......	......	......	3.4	7,673	13,811	......	746
			2	......	27.37	64.95	7.68	1.97	......	......	......	......	......	8,002	14,404		
			3	......	29.65	70.35	......	2.13	......	......	......	......	......	8,668	15,602		
Same (composite of Nos. 10306-10312)..........	10313	A	1	3.31	26.24	62.33	8.12	2.22	5.08	77.06	1.37	6.15	2.7	7,650	13,770	......	746
			2	......	27.13	64.47	8.40	2.30	4.87	79.70	1.42	3.31	......	7,912	14,241		
			3	......	29.62	70.38	......	2.51	5.32	87.01	1.55	3.61	......	8,638	15,547		
Lucerne No. 3 mine, Upper Freeport or E bed (main north heading, 700 feet from shaft bottom, 44-inch cut).	10303	A	1	2.94	26.88	61.99	8.19	1.88	......	......	......	......	2.2	7,668	13,802	......	747
			2	......	27.69	63.87	8.44	1.94	......	......	......	......	......	7,900	14,220		
			3	......	30.24	69.76	......	2.12	......	......	......	......	......	8,628	15,530		
Same (west heading 1, off main south entry, 600 feet from the shaft bottom, 59-inch cut).	10305	A	1	6.44	24.80	60.97	7.79	1.86	......	......	......	......	5.6	7,430	13,374	......	747
			2	......	26.50	65.17	8.33	1.99	......	......	......	......	......	7,941	14,294		
			3	......	28.91	71.09	......	2.17	......	......	......	......	......	8,663	15,593		
Same (left heading 4 off south entry 3, 800 feet from shaft bottom, 57½-inch cut).	10304	A	1	5.46	25.24	61.68	7.62	1.91	......	......	......	......	4.7	7,512	13,522	......	747
			2	......	26.70	65.24	8.06	2.02	......	......	......	......	......	7,946	14,303		
			3	......	29.04	70.96	......	2.20	......	......	......	......	......	8,643	15,557		
Same (composite of Nos. 10303-10305)..........	10314	A	1	5.02	26.02	61.16	7.80	1.94	5.23	76.23	1.41	7.39	4.2	7,533	13,559	......	747
			2	......	27.40	64.39	8.21	2.04	4.92	80.26	1.48	3.09	......	7,931	14,276		
			3	......	29.85	70.15	......	2.22	5.36	87.44	1.61	3.37	......	8,640	15,552		
Rossiter, Canoe Township, Clearfield No. 3 mine, Upper Freeport bed (5,100 feet southwest of opening, 46½-inch cut).	5223	A	1	4.26	26.55	60.35	8.84	1.86	......	......	......	......	2.9	7,458	13,424	......	748
			2	......	27.73	63.04	9.23	1.94	......	......	......	......	......	7,790	14,022		
			3	......	30.55	69.45	......	2.14	......	......	......	......	......	8,582	15,448		

Same (7,900 feet southwest of opening, 45-inch cut).	5226	A	2.79	1	25.68	62.58	8.95	2.01	......	......	......	......	1.2	76.13	13,703	......	748
			......	2	26.42	64.37	9.21	2.09	......	......	......	......	......	7,831	14,096		
			......	3	29.10	70.90	......	2.28	......	......	......	......	......	8,625	15,525		
Wehrum, Lackawanna No. 4 mine, Lower Kittanning (B or Miller) bed (half mile in mine).	3774	A	2.59	1	18.91	70.33	8.17	4.04	......	......	......	......	2.0	......	......	316	748
			......	2	19.41	72.20	8.39	4.15	......	......	......	......	......	......	......	339	
			......	3	21.19	78.81	......	4.53	......	......	......	......	......	......	......	447	
Same (2,000 feet northeast of shaft, 50½-inch cut).	4026	A	3.83	1	19.03	67.89	9.25	4.57	......	......	......	......	3.3	......	......	332	748
			......	2	19.79	70.59	9.62	4.75	......	......	......	......	......	......	......	447	
			......	3	21.90	78.10	......	5.26	......	......	......	......	......	......	......	18	
Same (1,900 feet southwest of shaft, 41½-inch cut).	4027	A	2.84	1	17.47	71.42	8.27	3.11	......	......	......	......	2.4	7,821	14,079	332	748
			......	2	17.98	73.51	8.51	3.20	......	......	......	......	......	8,049	14,488	447	
			......	3	19.65	80.35	......	3.50	......	......	......	......	......	......	......	28	
Same (run of mine, sample 1)	4082	C	3.13	1	17.61	69.45	9.81	3.77	4.62	76.41	1.14	4.25	2.8	7,664	13,795	332	......
			......	2	18.18	71.69	10.13	3.89	4.41	78.88	1.18	1.51	......	7,912	14,242		
			......	3	20.23	79.77	......	4.33	4.90	87.77	1.31	1.69	......	8,803	15,845		
Same (run of mine, sample 2)	4104	C	2.57	1	18.09	69.01	10.33	3.97	4.43	75.89	1.16	4.22	2.1	7,618	13,712	332	......
			......	2	18.57	70.83	10.60	4.07	4.25	77.89	1.19	2.00	......	7,819	14,074		
			......	3	20.77	79.23	......	4.56	4.75	87.13	1.33	2.23	......	8,746	15,743		
White, Mooween mine, Upper Freeport (E) bed (700 feet southwest of opening, 34½-inch cut).	4336	A	2.22	1	30.91	59.67	7.20	1.39	......	......	......	......	1.3	......	......	332	749
			......	2	31.61	61.03	7.36	1.42	......	......	......	......	......	......	......	336	
			......	3	34.12	65.88	......	1.53	......	......	......	......	......	......	......	18	
Same (485 feet west of opening, 37½-inch cut)	4337	A	2.22	1	30.95	58.41	8.42	1.54	......	......	......	......	1.3	7,667	13,801	332	749
			......	2	31.65	59.74	8.61	1.57	......	......	......	......	......	7,841	14,114	28	
			......	3	34.63	65.37	......	1.72	......	......	......	......	......	8,580	15,444		
Same (run of mine)	4421	C	4.35	1	27.76	55.99	11.90	1.51	5.04	71.62	1.39	8.54	3.3	7,202	12,964	332	......
			......	2	29.02	58.54	12.44	1.58	4.77	74.88	1.45	4.88	......	7,530	13,554		
			......	3	33.15	66.85	......	1.80	5.44	85.51	1.66	5.59	......	8,599	15,478		
			......	4	......	......	......	......	5.54	87.09	1.69	5.68	......	8,716	15,689		
JEFFERSON COUNTY.																	
Punxsutawney, 3 miles north of; at Delancey in Young Township, Adrian mine, Lower Freeport bed (7,300 feet northeast of opening, 61½-inch cut).	5219	A	3.56	1	27.19	65.18	4.07	.82	......	......	......	......	2.4	8,036	14,465	......	750
			......	2	28.19	67.59	4.22	.85	......	......	......	......	......	8,333	14,999		
			......	3	29.43	70.57	......	.89	......	......	......	......	......	8,700	15,660		
Same (6,800 feet east of opening, 60-inch cut)	5221	A	2.75	1	26.43	66.45	4.37	.98	......	......	......	......	1.5	8,061	14,510	......	750
			......	2	27.18	68.33	4.49	.96	......	......	......	......	......	8,289	14,920		
			......	3	28.46	71.54	......	1.01	......	......	......	......	......	8,679	15,622		
4 miles north of; Florence mine, Lower Freeport bed (7,920 feet east of opening, 69-inch cut).	5231	A	2.53	1	27.82	63.95	5.70	1.19	......	......	......	......	1.1	7,944	14,299	......	750
			......	2	28.54	65.61	5.85	1.22	......	......	......	......	......	8,150	14,670		
			......	3	30.31	69.69	......	1.30	......	......	......	......	......	8,656	15,581		
Same (7,920 feet southeast of opening, 73½-inch cut).	5232	A	3.18	1	26.31	66.33	4.18	.63	......	......	......	......	1.9	8,053	14,495	......	750
			......	2	27.17	68.51	4.32	.65	......	......	......	......	......	8,317	14,971		
			......	3	28.40	71.60	......	.68	......	......	......	......	......	8,693	15,647		
LACKAWANNA COUNTY.																	
Scranton, anthracite culm	1245	C	5.41	1	7.02	71.79	15.78	.74	3.10	72.65	.77	6.96	3.4	6,693	12,047	261	......
			......	2	7.42	75.90	16.68	.79	2.64	76.81	.81	2.27	......	7,076	12,737	*48*	
			......	3	8.91	91.09	......	.95	3.17	92.19	.97	2.72	......	8,493	15,287		
			......	4	......	......	......	......	3.20	93.05	.99	2.76	......	8,550	15,390		
SCHUYLKILL COUNTY.																	
Minersville, 2 miles west of; Phoenix Park No. 3 mine, 1,300 feet east of opening, 77-inch cut, Diamond bed.	5956	A	2.76	1	2.48	82.07	12.69	.54	2.23	79.22	.68	4.64	1.6	6,987	12,577	......	751
			......	2	2.55	84.40	13.05	.56	1.97	81.47	.70	2.25	......	7,185	12,933		
			......	3	2.93	97.07	......	.64	2.27	93.70	.81	2.58	......	8,263	14,873		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
PENNSYLVANIA—Continued.																	
SCHUYLKILL COUNTY—continued.																	
St. Nicholas, St. Nicholas (No. 209) mine. Mammoth (middle split) bed, (600 feet west of opening, 13½-foot cut).	5954	A	1	2.80	1.16	88.21	7.83	0.89	1.89	84.36	0.63	4.40	1.5	7,388	13,298	......	752
			2	......	1.19	90.75	8.06	.92	1.63	86.78	.65	1.96	......	7,601	13,682		
			3	......	1.29	98.71	......	1.00	1.77	94.39	.71	2.13	......	8,268	14,882		
Same (1,380 feet west of opening, 106-inch cut)..	5955	A	1	2.30	1.54	82.77	13.39	1.05	2.18	78.96	.66	3.81	1.5	6,957	12,523	......	752
			2	......	1.58	84.71	13.71	1.07	1.91	80.82	.68	1.81	......	7,121	12,818		
			3	......	1.83	98.17	......	1.24	2.21	93.66	.79	2.10	......	8,253	14,855		
Tower City, 1 mile north of; West Brookside mine (300 feet north of opening, Lykens (No. 5) bed, 110-inch cut).	5953	A	1	3.33	3.27	84.28	9.12	.60	3.08	81.35	.79	5.06	2.6	7,417	13,351	......	752
			2	......	3.38	87.19	9.43	.62	2.80	84.15	.82	2.18	......	7,672	13,810		
			3	......	3.73	96.27	......	.68	3.09	92.91	.91	2.41	......	8,471	15,248		
SOMERSET COUNTY.																	
Boswell, Orenda No. 2 mine, Upper Kittanning (C′) bed (head of left flat 7, 3,400 feet in, 78¼-inch bed, 59¾-inch cut).	6261	A	1	4.68	15.64	73.55	6.13	.75	......	......	......	......	4.1	7,737	13,927	......	753
			2	......	16.41	77.16	6.43	.79	......	......	......	......	......	8,117	14,610		
			3	......	17.54	82.46	......	.84	......	......	......	......	......	8,675	15,615		
Same (head of right flat 8, 5,000 feet in, 73-inch bed, 62¼-inch cut).	6262	A	1	3.89	15.51	73.56	7.04	.72	......	......	......	......	3.2	7,743	13,937	......	753
			2	......	16.14	76.53	7.33	.75	......	......	......	......	......	8,057	14,503		
			3	......	17.42	82.58	......	.81	......	......	......	......	......	8,694	15,649		
Same (500 feet from face of right 7, 6,200 feet in, 78¾-inch bed, 67¾-inch cut).	6263	A	1	3.42	15.49	74.77	6.32	.70	......	......	......	......	2.6	7,864	14,155	......	753
			2	......	16.04	77.42	6.54	.72	......	......	......	......	......	8,142	14,656		
			3	......	17.16	82.84	......	.77	......	......	......	......	......	8,712	15,682		
Elk Lick, 1½ miles northeast of; Merchants No. 3 mine, Pittsburgh bed (right 1, off right 3, 3,300 feet northeast of mouth, 61-inch cut).	6304	A	1	3.04	19.59	70.33	7.04	.74	......	......	......	......	1.9	7,875	14,175	......	754
			2	......	20.21	72.53	7.26	.76	......	......	......	......	......	8,121	14,618		
			3	......	21.79	78.21	......	.82	......	......	......	......	......	8,757	15,763		
Same (pillar in room 12, 4,800 feet northeast of opening, right heading 5, 64-inch cut).	6305	A	1	2.61	19.77	69.94	7.68	1.65	......	......	......	......	1.6	7,886	14,195	......	754
			2	......	20.30	71.81	7.89	1.69	......	......	......	......	......	8,097	14,575		
			3	......	22.04	77.96	......	1.83	......	......	......	......	......	8,791	15,824		
Jenner, Jenner No. 2 mine, Upper Kittanning (C′) bed (face heading 2, 5,400 feet southwest, 44⅞-inch bed).	6264	A	1	3.99	15.67	74.06	6.28	.67	......	......	......	......	3.2	7,852	14,134	......	754
			2	......	16.32	77.14	6.54	.70	......	......	......	......	......	8,179	14,722		
			3	......	17.46	82.54	......	.75	......	......	......	......	......	8,752	15,754		
Same (face heading 1, 4,080 feet southwest, 46⅜-inch cut).	6265	A	1	3.14	16.16	74.73	5.97	.62	......	......	......	......	2.4	7,915	14,247	......	754
			2	......	16.68	77.16	6.16	.64	......	......	......	......	......	8,171	14,708		
			3	......	17.77	82.23	......	.67	......	......	......	......	......	8,707	15,673		
Same (butt entry 2, off heading 10, 3,665 feet southwest, 47⅞-inch cut).	6266	A	1	4.23	15.68	73.80	6.29	.63	......	......	......	......	3.5	7,829	14,092	......	754
			2	......	16.37	77.06	6.57	.66	......	......	......	......	......	8,175	14,715		
			3	......	17.52	82.48	......	.71	......	......	......	......	......	8,750	15,750		

Jerome, Jerome No. 1 mine, Upper Kittanning (C′) bed, west entry 1, off main entry, 4,700 feet west, 71½-inch bed, 65¾-inch cut.	6258	A	1	2.78	16.14	73.63	7.45	.77	......	......	......	......	2.0	7,784	14,011	......	755
			2	......	16.60	75.74	7.66	.79	......	......	......	......	......	8,007	14,413		
			3	......	17.98	82.02	......	.86	......	......	......	......	......	8,672	15,610		
Same (room 9 off south 6, off west entry 2, 5,000 feet southwest, 59¼-inch bed, 48-inch cut.	6259	A	1	2.89	16.34	74.30	6.47	.64	......	......	......	......	2.2	7,855	14,139	......	755
			2	......	16.83	76.51	6.66	.66	......	......	......	......	......	8,089	14,560		
			3	......	18.03	81.97	......	.71	......	......	......	......	......	8,667	15,601		
Same (east entry 2, 3,900 feet southeast, 71-inch bed, 61-inch cut.)	6260	A	1	3.67	15.62	72.84	7.87	.77	......	......	......	......	2.9	7,671	13,808	......	755
			2	......	16.22	75.61	8.17	.80	......	......	......	......	......	7,963	14,333		
			3	......	17.66	82.34	......	.87	......	......	......	......	......	8,672	15,610		
Kimmelton, Kimmelton mine, Lower Kittanning bed (butt entry 2 off right 6, 3,200 feet south of drift mouth, 35⅛-inch cut).	2016	A	1	2.63	16.22	70.94	10.21	2.05	......	......	......	......	1.8	7,614	13,705	290	755
			2	......	16.66	72.85	10.49	2.11	......	......	......	......	......	7,820	14,076	336	
			3	......	18.61	81.39	......	2.36	......	......	......	......	......	8,736	15,725		
Same (left entry 8, 3,000 feet southeast of drift mouth, 34¼-inch cut).	2017	A	1	3.90	14.64	73.13	5.33	1.76	......	......	......	......	3.2	......	......	290	755
			2	......	15.23	76.10	5.67	1.83	......	......	......	......	......	......	......	336	
			3	......	16.68	83.32	......	2.00	......	......	......	......	......	......	......		
Same (run of mine)	2199	C	1	3.09	17.29	68.29	11.33	2.04	4.19	75.40	1.25	5.79	2.6	7,458	13,424	290	......
			2	......	17.84	70.47	11.69	2.11	3.97	77.81	1.29	3.13	......	7,696	13,853		
			3	......	20.20	79.80	......	2.38	4.50	88.10	1.46	3.56	......	8,715	15,687		
			4	......	......	......	......	......	4.61	90.26	1.50	3.63	......	8,872	15,970		
Listie, ¼-mile north of; Stauffer No. 1 mine, Lower Freeport bed (face of room 5, off right heading 6, 2,625 feet northwest of drift mouth, 40$\frac{1}{16}$-inch bed, 35$\frac{7}{16}$-inch cut).	306	A	1	2.18	17.78	72.03	8.01	.70	......	......	......	......	......	7,841	14,113	......	756
			2	......	18.18	73.63	8.19	.72	......	......	......	......	......	8,016	14,428		
			3	......	19.80	80.20	......	.78	......	......	......	......	......	8,731	15,715		
Same (face of room No. 4, off left heading 8, 2,860 feet northwest of drift mouth, 39$\frac{7}{16}$-inch bed, 35$\frac{7}{16}$-inch cut).	305	A	1	2.10	18.00	72.14	7.76	.60	......	......	......	......	......	7,900	14,220	......	756
			2	......	18.39	73.68	7.93	.62	......	......	......	......	......	8,069	14,525		
			3	......	19.97	80.03	......	.67	......	......	......	......	......	8,764	15,776		
Same (face of room No. 25, off left heading 6, 2,950 feet northwest of drift mouth, 38$\frac{11}{16}$-inch bed, 34$\frac{9}{16}$-inch cut).	307	A	1	2.23	17.52	72.20	8.05	.84	......	......	......	......	......	7,855	14,139	......	756
			2	......	17.92	73.85	8.23	.86	......	......	......	......	......	8,034	14,462		
			3	......	19.53	80.47	......	.94	......	......	......	......	......	8,755	15,759		
Same (composite of Nos. 305–307)	10455	A	1	.92	17.24	73.84	8.00	.71	4.51	81.72	1.35	3.71	......	......	......	......	756
			2	......	17.40	74.53	8.07	.72	4.45	82.48	1.36	2.92	......	......	......		
			3	......	18.93	81.07	......	.78	4.84	89.72	1.48	3.18	......	......	......		
MacDonaldton, Pen Mar No. 3 mine, B bed (face of south main heading 3, 6,500 feet southwest of drift mouth, 40-inch bed, 33½-inch cut).	312	A	1	2.57	15.99	72.12	9.32	1.70	......	......	......	......	......	7,682	13,828	......	757
			2	......	16.41	74.02	9.57	1.75	......	......	......	......	......	7,885	14,193		
			3	......	18.15	81.85	......	1.94	......	......	......	......	......	8,719	15,695		
Same (face of right 13, off south main heading 3, 6,370 feet southwest of drift mouth, 51$\frac{1}{16}$-inch bed, 45$\frac{5}{16}$-inch cut).	313	A	1	2.99	16.14	72.01	8.86	1.60	......	......	......	......	......	7,689	13,841	......	757
			2	......	16.64	74.23	9.13	1.65	......	......	......	......	......	7,927	14,268		
			3	......	18.31	81.69	......	1.82	......	......	......	......	......	8,723	15,702		
Same (face of left 6, off south entry 3, 6,490 feet southeast of drift mouth, 51½-inch bed, 46$\frac{3}{16}$-inch cut).	314	A	1	2.50	16.47	71.51	9.52	1.65	......	......	......	......	......	7,657	13,783	......	757
			2	......	16.89	73.35	9.76	1.68	......	......	......	......	......	7,853	14,136		
			3	......	18.72	81.28	......	1.86	......	......	......	......	......	8,703	15,665		
Same (face of room 3, off right 9, off south main 3, 6,200 feet southwest of drift mouth, 54-inch bed, 45$\frac{11}{16}$-inch cut).	315	A	1	2.08	16.17	70.68	11.07	2.18	......	......	......	......	......	7,567	13,620	......	757
			2	......	16.51	72.18	11.31	2.21	......	......	......	......	......	7,727	13,909		
			3	......	18.61	81.38	......	2.49	......	......	......	......	......	8,713	15,683		
Same (near face of right 5, off south main heading 4, 6,700 feet southwest of drift mouth, 54¼-inch bed, 40½-inch cut).	316	A	1	2.15	17.16	70.34	10.35	2.30	......	......	......	......	......	7,635	13,743	......	757
			2	......	17.54	71.88	10.58	2.35	......	......	......	......	......	7,803	14,045		
			3	......	19.62	80.38	......	2.63	......	......	......	......	......	8,726	15,707		
Same (near face of right 2, off south main heading 3, 3,500 feet southwest of drift mouth, 55$\frac{11}{16}$-inch bed, 45$\frac{1}{16}$-inch cut).	317	A	1	2.24	15.93	71.81	10.02	2.11	......	......	......	......	......	7,628	13,730	......	757
			2	......	16.30	73.45	10.25	2.16	......	......	......	......	......	7,803	14,045		
			3	......	18.16	81.84	......	2.41	......	......	......	......	......	8,694	15,649		
Same (composite of numbers 312–317)	10454	A	1	1.03	16.03	72.57	10.37	2.22	4.29	79.17	1.24	2.71	......	......	......	......	757
			2	......	16.20	73.32	10.48	2.24	4.22	79.99	1.25	1.82	......	......	......		
			3	......	18.10	81.90	......	2.50	4.71	89.36	1.40	2.03	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
PENNSYLVANIA—Continued.																	
SOMERSET COUNTY—continued.																	
MacDonaldton—Continued.																	
1½ miles southwest of; Pen Mar No. 2 mine, B bed (face of room 6, off level 1, between left entries 1 and 2, 2,000 feet west of drift mouth, 52¼-inch bed, 42½-inch cut).	308	A	1	3.03	15.61	72.75	8.61	1.62	......	......	......	......	......	7,645	13,761	......	758
			2	......	16.10	75.02	8.88	1.67	......	......	......	......	......	7,884	14,191		
			3	......	17.67	82.33	......	1.83	......	......	......	......	......	8,652	15,574		
Same (face of left entry 3, off north main 2, 2,900 feet northwest of drift mouth, $52\frac{3}{16}$-inch bed, $46\frac{1}{16}$-inch cut).	309	A	1	2.39	15.45	71.60	10.56	1.71	......	......	......	......	......	7,590	13,662	......	758
			2	......	15.83	73.35	10.82	1.74	......	......	......	......	......	7,777	13,997		
			3	......	17.75	82.25	......	1.95	......	......	......	......	......	8,719	15,695		
Same (north main heading, 200 feet north of right heading 8, 3,000 feet north of drift mouth, $52\frac{5}{16}$-inch bed, $49\frac{11}{16}$-inch cut).	310	A	1	3.19	15.67	71.15	9.99	1.48	......	......	......	......	......	7,553	13,596	......	758
			2	......	16.19	73.49	10.32	1.51	......	......	......	......	......	7,802	14,044		
			3	......	18.05	81.95	......	1.68	......	......	......	......	......	8,700	15,660		
Same (neck of room 3, off right 1, off north main heading, 1,300 feet northeast of drift mouth).	311	A	1	2.64	16.54	69.87	10.95	1.94	......	......	......	......	......	7,493	13,488	......	758
			2	......	16.99	71.76	11.25	1.97	......	......	......	......	......	7,697	13,854		
			3	......	19.14	80.86	......	2.22	......	......	......	......	......	8,672	15,610		
Same (composite of Nos. 308-311).............	10451	A	1	1.13	15.36	73.48	10.03	.93	4.28	79.14	1.34	4.28	......	......	......	......	758
			2	......	15.53	74.33	10.14	.94	4.20	80.04	1.36	3.32	......	......	......		
			3	......	17.28	82.72	......	1.05	4.67	89.07	1.51	3.70	......	......	......		
Meyersdale, 1½ miles southwest of; Elk Lick No. 1 mine, Pittsburgh bed (room 1, butt 2, off right 2, pump heading, 48½-inch cut).	6301	A	1	2.71	19.34	71.29	6.66	.72	......	......	......	......	2.0	7,940	14,292	......	758
			2	......	19.88	73.27	6.85	.74	......	......	......	......	......	8,162	14,692		
			3	......	21.34	78.66	......	.79	......	......	......	......	......	8,762	15,772		
Same (room 24, left 3, off right section 3, 71¾-inch cut).	6306	A	1	2.87	19.28	69.75	8.10	.86	......	......	......	......	2.0	7,805	14,049	......	758
			2	......	19.85	71.81	8.34	.89	......	......	......	......	......	8,035	14,463		
			3	......	21.66	78.34	......	.97	......	......	......	......	......	8,766	15,779		
Same (Elk Lick No. 2 mine, Pittsburgh bed, right 6, off west main, 2,600 feet northwest, 78-inch cut).	6302	A	1	2.98	19.52	69.53	7.97	.92	......	......	......	......	2.3	7,786	14,015	......	758
			2	......	20.12	71.67	8.21	.95	......	......	......	......	......	8,025	14,445		
			3	......	21.92	78.08	......	1.03	......	......	......	......	......	8,742	15,736		
Same (Elk Lick No. 3 mine, Redstone bed, extension of left heading 2, 2,000 feet northeast, 56½-inch cut).	6307	A	1	3.59	19.43	66.04	10.94	1.55	......	......	......	......	2.7	7,457	13,423	......	758
			2	......	20.15	68.50	11.35	1.61	......	......	......	......	......	7,734	13,921		
			3	......	22.73	77.27	......	1.82	......	......	......	......	......	8,724	15,703		
Same (Summit No. 1 mine, right heading 4, 4,000 feet northwest, 71-inch cut).	6303	A	1	3.28	20.21	68.65	7.86	.99	......	......	......	......	2.2	7,807	14,053	......	759
			2	......	20.90	70.97	8.13	1.02	......	......	......	......	......	8,072	14,530		
			3	......	22.75	77.25	......	1.11	......	......	......	......	......	8,786	15,815		
Same (Summit No. 2 mine, Redstone bed, right heading 2, 2,000 feet northeast, 47½-inch cut).	6308	A	1	2.92	18.36	66.27	12.45	1.59	......	......	......	......	2.0	7,361	13,250	......	759
			2	......	18.91	68.27	12.82	1.64	......	......	......	......	......	7,584	13,650		
			3	......	21.69	78.31	......	1.88	......	......	......	......	......	8,699	15,658		

Same (right heading 7, 3,500 feet northeast, 48½-inch cut).	6309	A	1	3.71	19.37	66.12	10.80	1.41	......	......	......	......	2.9	7,422	13.360	......	759
			2	......	20.12	68.66	11.22	1.46	......	......	......	......	......	7,708	13,874		
			3	......	22.66	77.34	......	1.64	......	......	......	......	......	8,682	15,628		
Ralphton, Ralphton No. 1 mine, Upper Kittanning (C′) bed (west 2, off right entry, 7, 4,000 feet west, 41½-inch bed, 37½-inch cut).	6268	A	1	3.06	15.59	74.55	6.80	.53	......	......	......	......	2.1	7,877	14,179	......	760
			2	......	16.08	76.91	7.01	.55	......	......	......	......	......	8,126	14,627		
			3	......	17.29	82.71	......	.59	......	......	......	......	......	8,739	15,730		
Same (dip 1, 2,300 feet south, 44⅝-inch bed, 39½-inch cut).	6269	A	1	3.38	14.79	74.85	6.98	.59	......	......	......	......	2.5	7,850	14,130	......	760
			2	......	15.31	77.47	7.22	.61	......	......	......	......	......	8,125	14,625		
			3	......	16.50	83.50	......	.66	......	......	......	......	......	8,757	15,763		
Stoughton, Jenner No. 1 mine, Upper Kittanning (C′) bed (right entry 3, off dip 1, 1,300 feet northeast, 46½-inch cut).	6267	A	1	3.12	15.91	73.44	7.53	.67	......	......	......	......	2.2	7,804	14,047	......	760
			2	......	16.42	75.81	7.77	.69	......	......	......	......	......	8,055	14,499		
			3	......	17.80	82.20	......	.75	......	......	......	......	......	8,733	15,719		
Same (dip 3, 1,500 feet southwest, 44½-inch cut).	6270	A	1	2.95	15.72	74.02	7.31	.61	......	......	......	......	2.1	7,877	14,179	......	760
			2	......	16.20	76.27	7.53	.63	......	......	......	......	......	8,116	14,609		
			3	......	17.52	82.48	......	.68	......	......	......	......	......	8,777	15,799		
Windber, Eureka No. 31 mine, Lower Kittanning (B) bed, run of mine (lump) coal shipped by operator (sample 1).	1039	C	1	1.10	15.80	75.69	7.41	1.49	4.20	81.98	1.36	3.56	......	8,055	14,499	261	......
			2	......	15.98	76.53	7.49	1.51	4.13	82.89	1.38	2.60	......	8,144	14,659	*48*	
			3	......	17.27	82.73	......	1.63	4.46	89.60	1.49	2.82	......	8,804	15,847		
			4	......	......	......	......	......	4.53	91.09	1.51	2.87	......	8,912	16,042		
Same (sample 2)	1057	C	1	.59	16.61	76.76	6.04	.91	4.28	83.94	1.27	3.56	......	8,196	14,753	261	......
			2	......	16.71	77.21	6.08	.92	4.23	84.44	1.28	3.05	......	8,244	14,839	*48*	
			3	......	17.79	82.21	......	.97	4.51	89.90	1.36	3.26	......	8,778	15,800		
			4	......	......	......	......	......	4.55	90.78	1.37	3.30	......	8,842	15,916		
Same (pillar, room 4, south entry 7 off west entry 46 off main, 34-inch cut).	9004	A	1	2.5	12.5	78.5	6.5	1.45	......	......	......	......	1.8	......	......	......	761
			2	......	13.0	80.3	6.7	1.50	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	1.60	......	......	......	......	......	......	......		
Same (pillar, room 13, south entry 3 off west entry 46 off main, 46-inch cut).	9005	A	1	2.3	14.0	77.3	6.4	1.55	......	......	......	......	1.8	......	......	......	761
			2	......	14.5	78.9	6.6	1.60	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	1.70	......	......	......	......	......	......	......		
Same (room on left entry 2, new drift, 43-inch cut).	9008	A	1	2.3	15.0	74.3	8.4	1.60	......	......	......	......	1.7	......	......	......	761
			2	......	15.5	75.9	8.6	1.65	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	1.80	......	......	......	......	......	......	......		
Same (pillar 13 off east entry 56 off main entry, 47½-inch cut).	9006	A	1	2.5	13.5	77.0	7.0	1.25	......	......	......	......	1.7	......	......	......	761
			2	......	14.0	78.9	7.1	1.30	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	1.40	......	......	......	......	......	......	......		
Same (pillar in room 4 off east entry 36 off main, 45-inch cut).	9007	A	1	2.1	14.5	78.0	5.4	.70	......	......	......	......	1.4	......	......	......	761
			2	......	14.5	80.0	5.5	.70	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.75	......	......	......	......	......	......	......		
Same (room 1 off southwest entry 15 off main entry, 46½-inch cut).	9009	A	1	2.4	13.5	78.6	5.5	.85	......	......	......	......	1.6	......	......	......	761
			2	......	14.0	80.4	5.6	.85	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.90	......	......	......	......	......	......	......		
Same (composite of Nos. 9004–9007)	9021	......	1	2.4	13.5	77.8	6.31	1.26	4.44	82.62	1.31	4.06	1.7	7,985	14,370	......	761
			2	......	13.5	80.0	6.47	1.29	4.27	84.67	1.34	1.96	......	8,185	14,730		
			3	......	14.5	85.5	......	1.38	4.57	90.53	1.43	2.09	......	8,750	15,750		
Same (composite of Nos. 9008 and 9009)	9020	......	1	2.5	13.5	77.0	6.97	1.26	4.34	81.61	1.31	4.51	1.7	7,925	14,260	......	761
			2	......	14.0	78.8	7.15	1.29	4.17	83.72	1.34	2.33	......	8,130	14,630		
			3	......	15.5	84.5	......	1.39	4.49	90.17	1.44	2.51	......	8,755	15,760		
Eureka No. 32 mine, Lower Kittanning (B) bed (main entry pillar, 8,000 feet S. 65° E. from drift mouth, 42½-inch cut).	8949	A	1	3.3	12.0	80.2	4.5	.70	......	......	......	......	2.5	......	......	......	762
			2	......	12.5	82.9	4.6	.75	......	......	......	......	......	......	......		
			3	......	13.0	87.0	......	.80	......	......	......	......	......	......	......		
Same (pillar, west entry 4 off right entry 12 off main entry, 6,800 feet S. 60° E. from drift mouth, 46-inch cut).	8950	A	1	3.3	12.0	80.6	4.1	.60	......	......	......	......	2.5	......	......	......	762
			2	......	12.5	83.3	4.2	.60	......	......	......	......	......	......	......		
			3	......	13.0	87.0	......	.65	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
PENNSYLVANIA—Continued.																	
SOMERSET COUNTY—continued.																	
Windber, Eureka No. 32 mine—Continued.																	
Same (right entry 26 off main entry 41, 12,000 feet S. 75° E. from drift mouth, 41½-inch cut).	8951	A	1	3.2	13.0	78.5	5.3	1.30	......	......	......	......	2.5	......	......	......	762
			2	......	13.5	81.0	5.5	1.35	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	1.40	......	......	......	......	......	......	......		
Same (pillar, right entry 6 off main entry, 2.800 feet S. 60° E. from drift mouth, 41½-inch cut).	8952	A	1	2.7	13.5	78.8	5.0	.60	......	......	......	......	2.0	......	......	......	762
			2	......	14.0	80.9	5.1	.60	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.65	......	......	......	......	......	......	......		
Same (pillar, left entry 5 off main entry 2, 3,300 feet N. 80° E. from drift mouth, 43½-inch cut).	8953	A	1	3.0	13.0	79.2	4.8	.55	......	......	......	......	2.8	......	......	......	762
			2	......	13.5	81.6	4.9	.55	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.60	......	......	......	......	......	......	......		
Same (composite of Nos. 8949–8953)............	9022	......	1	3.3	13.0	79.0	4.66	.78	4.48	83.67	1.24	5.17	2.4	8,085	14,553	......	762
			2	......	13.5	81.7	4.82	.81	4.25	86.53	1.28	2.31	......	8,362	15,052		
			3	......	14.0	86.0	......	.85	4.47	90.91	1.34	2.43	......	8,785	15,813		
Eureka No. 35 mine, Lower Kittanning (B) bed, (main air course, 37½-inch cut, wet sample).	8875	A	1	4.6	13.0	76.5	5.9	1.05	......	......	......	......	4.0	......	......	......	763
			2	......	14.0	79.8	6.2	1.10	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	1.20	......	......	......	......	......	......	......		
Same (right entry 23 off main entry, 43¾-inch cut).	8874	A	1	2.9	13.0	76.4	7.7	1.35	......	......	......	......	2.2	......	......	......	763
			2	......	13.5	78.6	7.9	1.35	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	1.50	......	......	......	......	......	......	......		
Same (pillar, room 33, left entry 16 off main entry, 47-inch cut).	8879	A	1	2.5	13.0	77.7	6.8	1.55	......	......	......	......	1.8	......	......	......	763
			2	......	13.0	80.1	6.9	1.60	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	1.70	......	......	......	......	......	......	......		
Same (pillar, room 6, left entry 8 off main entry, 3¾-foot cut).	8878	A	1	2.5	13.5	78.4	5.6	.60	......	......	......	......	1.8	......	......	......	763
			2	......	14.0	80.3	5.7	.65	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.65	......	......	......	......	......	......	......		
Same (right entry 23 off north entry, 3-foot cut).	8873	A	1	2.9	13.0	78.3	5.8	1.35	......	......	......	......	2.1	......	......	......	763
			2	......	13.5	80.5	6.0	1.40	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	1.50	......	......	......	......	......	......	......		
Same (pillar, right entry 11 off north entry, 42½-inch cut).	8877	A	1	2.5	12.5	78.7	6.3	1.10	......	......	......	......	1.8	......	......	......	763
			2	......	13.0	80.6	6.4	1.15	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	1.25	......	......	......	......	......	......	......		
Same (left entry 21 off main entry, 44-inch cut.	8876	A	1	3.5	13.0	77.1	6.4	1.05	......	......	......	......	2.8	......	......	......	763
			2	......	13.5	79.7	6.6	1.10	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	1.20	......	......	......	......	......	......	......		

Same (composite of Nos. 8873–8876)............	8939	......	1	3.5	12,4	77.6	6.43	1.31	4.61	81.17	1.21	5.27	2.8	7,850	14,130	......	763
			2	......	13.0	80.3	6.66	1.36	4.37	84.12	1.25	2.24	......	8,140	14,650		
			3	......	14.0	86.0	......	1.46	4.68	90.13	1.34	2.39	......	8,720	15,690		
Same (composite of Nos. 8877–8879)	8940	......	1	2.5	12.5	78.8	6.17	1.06	4.36	82.27	1.34	4.80	1.8	7,985	14,380	......	763
			2	......	12.5	81.2	6.33	1.09	4.19	84.34	1.37	2.68	......	8,190	14,740		
			3	......	13.5	86.5	......	1.16	4.47	90.04	1.46	2.87	......	8,740	15,740		
Eureka No. 35–C′ mine, Upper Kittanning (C′) bed (right entry 2 off main entry, 53-inch cut).	8964	A	1	2.6	14.0	75.8	7.6	1.60	......	......	......	......	2.0	......	......	......	764
			2	......	14.0	78.2	7.8	1.65	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	1.80	......	......	......	......	......	......	......		
Same (main entry, 53½-inch cut)...............	8965	A	1	2.8	13.5	75.9	7.8	1.45	......	......	......	......	2.2	......	......	......	764
			2	......	13.5	78.5	8.0	1.50	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	1.65	......	......	......	......	......	......	......		
Same (left air course 2 off main entry, 49½-inch cut).	8966	A	1	2.9	12.0	77.3	7.8	1.25	......	......	......	......	2.3	......	......	......	764
			2	......	12.5	79.5	8.0	1.30	......	......	......	......	......	......	......		
			3	......	13.5	86.5	......	1.40	......	......	......	......	......	......	......		
Same (composite of Nos. 8964–8966)............	9025	......	1	3.0	12.0	77.4	7.55	1.50	4.32	79.84	1.17	5.62	2.2	7,820	14,070	......	764
			2	......	12.5	79.7	7.78	1.55	4.11	82.31	1.21	3.04	......	8,060	14,510		
			3	......	13.5	86.5	......	1.68	4.46	89.26	1.31	3.29	......	8,740	15,730		
1½ miles west of; Eureka No. 30 mine, Lower Kittanning (B) bed (pillar, right entry 1 off right entry 10, 9,500 feet from drift mouth, 39½-inch cut).	8943	A	1	2.1	17.5	73.3	7.1	1.75	......	......	......	......	1.5	7,940	14,290	......	764
			2	......	18.0	74.8	7.2	1.80	......	......	......	......	......	8,110	14,600		
			3	......	19.0	81.0	......	1.95	......	......	......	......	......	8,740	15,730		
Same (pillar, left entry 10 off main entry, 9,500 feet from drift mouth, 37¾-inch cut).	8944	A	1	3.9	14.0	76.6	5.5	1.60	......	......	......	......	3.0	7,910	14,240	......	764
			2	......	14.5	79.7	5.8	1.65	......	......	......	......	......	8,235	14,820		
			3	......	15.0	85.0	......	1.75	......	......	......	......	......	8,740	15,730		
Same (right entry 13 off main entry 1, 10,000 feet from drift mouth, 34½-inch cut).	8945	A	1	2.5	17.5	72.3	7.7	2.25	......	......	......	......	1.7	......	......	......	764
			2	......	18.0	74.1	7.9	2.30	......	......	......	......	......	......	......		
			3	......	19.5	80.5	......	2.50	......	......	......	......	......	......	......		
Same (room 11, left entry 11 off main entry 2, 10,800 feet from drift mouth, 36¾-inch cut).	8946	A	1	3.5	13.5	76.1	6.9	1.85	......	......	......	......	2.8	......	......	......	764
			2	......	14.0	78.8	7.2	1.90	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	2.05	......	......	......	......	......	......	......		
Same (left entry 15 off main entry 2, 11,500 feet from drift mouth, 33¾-inch cut).	8947	A	1	3.1	13.0	78.2	5.7	1.55	......	......	......	......	2.4	......	......	......	764
			2	......	13.5	80.6	5.9	1.60	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	1.70	......	......	......	......	......	......	......		
Same (left entry 15 off main entry 1, 10,500 feet from drift mouth, 43¾-inch cut).	8948	A	1	3.4	17.0	70.8	8.8	1.70	......	......	......	......	2.7	......	......	......	764
			2	......	18.0	72.9	9.1	1.75	......	......	......	......	......	......	......		
			3	......	19.5	80.5	......	1.95	......	......	......	......	......	......	......		
Same (composite of Nos. 8945–8948)............	9019	......	1	3.1	15.0	74.8	7.07	1.85	4.58	80.78	1.32	4.40	2.4	7,830	14,100	......	764
			2	......	15.5	77.2	7.30	1.91	4.37	83.37	1.36	1.69	......	8,080	14,550		
			3	......	17.0	83.0	......	2.06	4.71	89.93	1.47	1.83	......	8,720	15,690		
2 miles south of; Eureka No. 33 mine, Lower Kittanning (B) bed (pillar, main entry, 6,000 feet from drift mouth, 40½-inch cut).	8954	A	1	3.3	15.5	74.8	6.4	.95	......	......	......	......	2.6	......	......	......	765
			2	......	16.0	77.4	6.6	1.00	......	......	......	......	......	......	......		
			3	......	17.0	83.0	......	1.05	......	......	......	......	......	......	......		
Same (pillar, right entry 12, 4,600 feet from drift mouth, 40⅝-inch cut).	8955	A	1	3.5	13.0	77.6	5.9	.65	......	......	......	......	3.0	......	......	......	765
			2	......	13.5	80.4	6.1	.65	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.70	......	......	......	......	......	......	......		
Same (pillar, main entry 2 off right entry 9, 4,500 feet from drift mouth, 37-inch cut).	8956	A	1	3.6	14.5	76.7	5.2	.85	......	......	......	......	3.0	......	......	......	765
			2	......	15.0	79.6	5.4	.85	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.90	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
PENNSYLVANIA—Continued.																	
SOMERSET COUNTY—continued.																	
Windber, Eureka No. 33 mine—Continued.																	
Same (pillar, room 1, left entry 5, 2,500 feet from drift mouth, 43½-inch cut).	8957	A	1	3.6	14.0	77.9	4.5	0.60	......	......	......	......	2.8	......	......	......	765
			2	......	14.5	80.9	4.6	.65	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.65	......	......	......	......	......	......	......		
Same (pillar, left entry 3 off main entry, 1,200 feet from drift mouth, 42½-inch cut, wet sample).	8958	A	1	8.2	12.5	74.5	4.8	.65	......	......	......	......	7.3	......	......	......	765
			2	......	14.0	80.8	5.2	.70	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.75	......	......	......	......	......	......	......		
Same (composite of Nos. 8954–8958)......	9023	......	1	4.6	13.5	76.7	5.18	.75	4.68	81.68	1.35	6.39	3.7	7,975	14,360	......	765
			2	......	14.0	80.6	5.43	.79	4.33	85.66	1.42	2.37	......	8,365	15,060		
			3	......	15.0	85.0	......	.84	4.58	90.58	1.50	2.50	......	8,845	15,920		
1½ miles south of; Eureka No. 34 mine, Lower Kittanning (B) bed (pillar, south entry 1 off right entry 13 off main entry, 47½-inch cut).	8959	A	1	3.1	14.0	75.3	7.6	1.35	......	......	......	......	2.5	7,760	13,970	......	766
			2	......	14.0	78.1	7.9	1.40	......	......	......	......	......	8,010	14,420		
			3	......	15.5	84.5	......	1.55	......	......	......	......	......	8,695	15,650		
Same (pillar, room 19, left entry 15 off main entry 2, 3½-foot cut).	8960	A	1	3.2	13.5	77.3	6.0	1.20	......	......	......	......	2.4	7,965	14,340	......	766
			2	......	14.0	79.8	6.2	1.25	......	......	......	......	......	8,230	14,620		
			3	......	14.5	85.5	......	1.30	......	......	......	......	......	8,780	15,800		
Same (room 21, left entry 2, off main entry, 41-inch cut).	8961	A	1	3.4	14.5	75.0	7.1	1.15	......	......	......	......	2.7	......	......	......	766
			2	......	15.0	77.6	7.4	1.20	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	1.30	......	......	......	......	......	......	......		
Same (main air course, 43-inch cut)......	8962	A	1	2.7	15.0	76.1	6.2	1.00	......	......	......	......	2.2	......	......	......	766
			2	......	15.5	78.1	6.4	1.05	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	1.10	......	......	......	......	......	......	......		
Same (south entry 5 off right entry 18 off main entry 1, 47-inch cut).	8963	A	1	3.5	14.0	75.2	7.3	1.70	......	......	......	......	2.9	......	......	......	766
			2	......	14.5	78.0	7.5	1.75	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	1.90	......	......	......	......	......	......	......		
Same (composite of Nos. 8961–8963)......	9024	......	1	3.2	14.0	75.9	6.90	1.31	4.47	80.57	1.24	5.51	2.6	7,855	14,140	......	766
			2	......	14.5	78.4	7.12	1.35	4.25	83.24	1.28	2.76	......	8,115	14,610		
			3	......	15.5	84.5	......	1.45	4.58	89.62	1.38	2.97	......	8,740	15,730		
1½ miles northeast of; Eureka No. 36 mine, Lower Kittanning (B) bed (room 1, off right entry 21, 8,500 feet north of drift mouth, 43-inch cut).	6274	A	1	2.83	15.66	75.00	6.51	2.14	......	......	......	......	2.1	7,900	14,220	......	767
			2	......	16.12	77.18	6.70	2.20	......	......	......	......	......	8,130	14,634		
			3	......	17.28	82.72	......	2.36	......	......	......	......	......	8,714	15,685		
Same (right slant 14, 9,000 feet northeast of drift mouth, 42½-inch cut).	6275	A	1	3.31	14.81	76.23	5.65	1.71	......	......	......	......	2.6	7,951	14,312	......	767
			2	......	15.32	78.84	5.84	1.77	......	......	......	......	......	8,223	14,801		
			3	......	16.27	83.73	......	1.88	......	......	......	......	......	8,732	15,718		

Same (right entry 19 off main slant 3, 8,500 feet northeast of drift mouth, 44½-inch cut).	6276	A	1	3.58	15.36	76.95	4.11	.52	......	......	......	......	3.0	8,115	14,607	......	767
			2	......	15.94	79.80	4.26	.54	......	......	......	......	......	8,416	15,149		
			3	......	16.65	83.35	......	.56	......	......	......	......	......	8,791	15,824		
Same (main entry 1, 8,300 feet N. 21° E. of drift mouth, 3-foot cut).	8920	A	1	3.6	13.5	77.5	5.4	1.25	......	......	......	......	3.0	......	......	......	767
			2	......	14.0	80.4	5.6	1.30	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	1.40	......	......	......	......	......	......	......		
Same (north entry 4, off left entry 18 off main entry 1, 7,800 feet north of drift mouth, 3½-foot cut).	8921	A	1	4.0	13.0	77.5	5.5	1.35	......	......	......	......	3.4	......	......	......	767
			2	......	13.5	80.7	5.8	1.40	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	1.50	......	......	......	......	......	......	......		
Same (pillar 7, right entry 13 off main entry 1, 5,200 feet N. 26° E. of drift mouth, 39½-inch cut).	8922	A	1	3.2	12.5	79.0	5.3	1.50	......	......	......	......	2.6	......	......	......	767
			2	......	12.5	82.1	5.4	1.55	......	......	......	......	......	......	......		
			3	......	13.5	86.5	......	1.65	......	......	......	......	......	......	......		
Same (pillar 14, right entry 16 off main entry 2, 6,300 feet N. 55° E. of drift mouth, 43-inch cut).	8923	A	1	3.0	14.0	78.9	4.1	.80	......	......	......	......	2.4	......	......	......	767
			2	......	14.0	81.8	4.2	.80	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.85	......	......	......	......	......	......	......		
Same (pillar 20, right entry 10, off main entry 3, 6,200 feet east of drift mouth, 41½-inch cut).	8924	A	1	3.3	13.0	79.5	4.2	.85	......	......	......	......	2.7	......	......	......	767
			2	......	13.5	82.1	4.4	.90	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.95	......	......	......	......	......	......	......		
Same (main entry 2, 9,800 feet N. 46° E. from drift mouth, 43-inch cut).	8925	A	1	4.4	12.5	77.5	5.6	1.45	......	......	......	......	3.9	......	......	......	767
			2	......	13.0	81.2	5.8	1.55	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	1.65	......	......	......	......	......	......	......		
Same (composite of Nos. 8920, 8921, and 8925)....	9026	......	1	4.3	12.0	78.1	5.59	1.36	4.48	81.76	1.26	5.55	3.4	7,945	14,300	......	767
			2	......	12.5	81.7	5.84	1.42	4.19	85.41	1.32	1.82	......	8,300	14,940		
			3	......	13.5	86.5	......	1.51	4.45	90.71	1.40	1.93	......	8,810	15,860		
Same (composite of Nos. 8922–8924)	9027	......	1	4.2	13.0	78.3	4.52	1.04	4.45	82.59	1.30	6.10	3.4	8,060	14,500	......	767
			2	......	13.5	81.8	4.72	1.09	4.15	86.21	1.36	2.47	......	8,410	15,140		
			3	......	14.0	86.0	......	1.14	4.36	90.48	1.43	2.59	......	8,825	15,890		
3½ miles southwest of; Eureka No. 39 mine, upper Kittanning (C′) bed (south entry 7 off left entry 1, 5,300 feet from drift mouth, 34½-inch cut).	8969	A	1	3.0	12.0	76.8	8.2	1.40	......	......	......	......	2.3	......	......	......	769
			2	......	12.5	79.0	8.5	1.45	......	......	......	......	......	......	......		
			3	......	13.5	86.5	......	1.55	......	......	......	......	......	......	......		
Same (room 16, south entry 9 off right entry 1, 5,300 feet from drift mouth, 39½-inch cut).	8970	A	1	3.0	12.5	76.2	8.3	1.10	......	......	......	......	2.4	......	......	......	769
			2	......	12.5	78.9	8.6	1.10	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	1.20	......	......	......	......	......	......	......		
Same (north entry 7 off right entry 1, 5,100 feet from drift mouth, 36½-inch cut).	8971	A	1	2.9	13.0	74.7	9.4	1.55	......	......	......	......	2.2	......	......	......	769
			2	......	13.5	76.9	9.6	1.55	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	1.75	......	......	......	......	......	......	......		
Same (room 20, north entry 4 off right entry 1, 4,700 feet from drift mouth, 37½-inch cut).	8972	A	1	3.1	13.0	75.8	8.1	1.60	......	......	......	......	2.4	......	......	......	769
			2	......	13.5	78.2	8.3	1.65	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	1.75	......	......	......	......	......	......	......		
Same (main entry, 5,200 feet from drift mouth, 3½-foot cut).	8973	A	1	2.9	13.0	76.2	7.9	1.00	......	......	......	......	2.3	......	......	......	769
			2	......	13.5	78.3	8.2	1.05	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	1.15	......	......	......	......	......	......	......		
Same (left entry 9 off main entry, 5,300 feet from drift mouth, 42½-inch cut).	8974	A	1	3.2	13.0	75.6	8.2	2.25	......	......	......	......	2.7	......	......	......	769
			2	......	13.5	78.0	8.5	2.35	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	2.55	......	......	......	......	......	......	......		
Same (composite of Nos. 8969–8974)	9030	......	1	3.3	13.0	75.4	8.34	1.50	4.29	79.79	1.31	4.77	2.4	7,740	13,930	......	769
			2	......	13.5	77.9	8.63	1.55	4.05	82.53	1.35	1.89	......	8,005	14,410		
			3	......	14.5	85.5	......	1.70	4.43	90.33	1.48	2.06	......	8,760	15,770		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
PENNSYLVANIA—Continued.																	
SOMERSET COUNTY—continued.																	
Windber—Continued.																	
4 miles southwest of; on Stony Creek, above Border station on Baltimore & Ohio R. R., Somerset and Cambria mine, Lower Kittanning (B or Miller) 77-inch bed.	3837	B	1	1.78	15.19	73.25	9.78	4.50	4.16	77.10	1.41	3.05	1.1	7,612	13,702	316	769
			2	....	15.46	74.58	9.96	4.58	4.03	78.50	1.44	1.49	....	7,750	13,950		
			3	....	17.18	82.82	....	5.09	4.48	87.18	1.59	1.66	....	8,607	15,493		
SULLIVAN COUNTY.																	
Bernice, Connell mine, chamber 69 off A entry, B (6-foot) bed.	9665	A	1	3.38	8.47	76.65	11.50	.63	3.58	78.43	1.00	4.86	2.6	7,309	13,156	......	770
			2	....	8.77	79.33	11.90	.65	3.31	81.18	1.04	1.92	....	7,565	13,617		
			3	....	9.95	90.05	....	.74	3.76	92.15	1.18	2.17	....	8,587	15,457		
Same, chamber 4, off AA entry, B (upper) 3-foot 1-inch bed.	9654	A	1	3.35	8.35	72.75	15.55	.53	3.54	74.03	.97	5.38	2.8	6,943	12,497	......	770
			2	....	8.64	75.27	16.09	.55	3.28	76.60	1.00	2.48	....	7,184	12,931		
			3	....	10.30	89.70	....	.66	3.91	91.29	1.19	2.95	....	8,562	15,412		
¾ mile east of; Randall and Shaad mine, Dashuer entry, 3d breast face, B (lower), 2-foot 3½-inch bed.	9652	A	1	3.40	9.34	75.58	11.68	.81	3.64	77.85	.95	5.07	2.9	7,289	13,120	......	771
			2	....	9.67	78.24	12.09	.84	3.37	80.59	.98	2.13	....	7,545	13,581		
			3	....	11.00	89.00	....	.96	3.83	91.67	1.11	2.43	....	8,582	15,448		
1½ miles east of; O'Boyle and Fay mine, face of main entry, 120 feet from opening, 3-foot 5½-inch bed.	9653	A	1	3.66	9.17	74.08	13.09	1.57	3.58	75.56	1.00	5.20	3.0	7,131	12,836	......	771
			2	....	9.51	76.90	13.59	1.63	3.29	78.43	1.04	2.02	....	7,402	13,324		
			3	....	11.02	88.98	....	1.89	3.80	90.76	1.20	2.35	....	8,566	15,419		
Same (Johnson entry, off entry 3, 6-foot 8-inch bed).	9656	A	1	3.47	9.28	76.10	11.15	.78	3.62	77.60	1.00	5.85	3.0	7,342	13,216	......	771
			2	....	9.61	78.84	11.55	.81	3.34	80.39	1.04	2.87	....	7,606	13,691		
			3	....	10.87	89.13	....	.92	3.78	90.89	1.18	3.23	....	8,599	15,478		
Lopez, 1 mile northwest of; Northern mine, east gangway, left heading 1, B (7-foot ½-inch) bed.	9655	A	1	3.16	8.59	78.08	10.17	.67	3.47	79.49	1.10	5.10	2.6	7,431	13,376	......	771
			2	....	8.87	80.63	10.50	.69	3.22	82.08	1.14	2.37	....	7,673	13,811		
			3	....	9.91	90.09	....	.77	3.60	91.71	1.27	2.65	....	8,573	15,431		
Same, north gangway, left chamber 1, B (4-foot 11-inch) bed.	9664	A	1	3.58	9.14	75.36	11.92	.60	3.57	78.04	.97	4.90	3.0	7,262	13,072	......	771
			2	....	9.48	78.16	12.36	.62	3.29	80.94	1.01	1.78	....	7,531	13,556		
			3	....	10.82	89.18	....	.71	3.75	92.35	1.15	2.04	....	8,593	15,467		
WASHINGTON COUNTY.																	
Acheson, Acheson mine, Pittsburgh bed (1,100 feet west of opening, 63½-inch cut).	3441	A	1	2.60	32.46	59.31	5.63	1.19	....	....	....	....	1.4	7,880	14,184	332	771
			2	....	33.33	60.89	5.78	1.22	....	....	....	....	....	8,090	14,562	336	
			3	....	35.37	64.63	....	1.29	....	....	....	....	....	8,587	15,457	18	

Same (1,600 feet southwest of opening, 59-inch cut).	3442	A	1	3.21	32.27	58.64	5.88	1.22	....	....	....	....	2.0	....	....	332	771
			2	....	33.34	60.58	6.08	1.26	....	....	....	....	....	....	....	336	
			3	....	35.50	64.50	....	1.34	....	....	....	....	....	....	....	18	
Same (run of mine)	4098	C	1	1.96	30.55	58.24	9.25	2.19	4.81	74.37	1.45	7.93	.7	7,568	13,622	332	......
			2	....	31.16	59.40	9.44	2.23	4.68	75.86	1.48	6.31	....	7,719	13,894		
			3	....	34.41	65.59	....	2.47	5.17	83.76	1.63	6.97	....	8,524	15,343		
½ mile east of; Blaine Township, bank of William Miloy, Waynesburg, 4-foot bed.	2631	B	1	4.29	30.43	45.01	20.27	2.62	....	....	....	....	1.7	....	....	......	772
			2	....	31.79	47.03	21.18	2.74	....	....	....	....	....	....	....		
			3	....	40.33	59.67	....	3.48	....	....	....	....	....	....	....		
Anderson (Venetta), Blanche mine, Pittsburgh bed, main bench, 67½-inch cut	1033	B	1	1.70	37.20	55.83	5.27	1.13	....	....	....	....	....	7,964	14,335	*48*	772
			2	....	37.84	56.80	5.36	1.15	....	....	....	....	....	8,102	14,584	300	
			3	....	39.98	60.02	....	1.22	....	....	....	....	....	8,561	15,410		
Beallsville, 2 miles south of; country bank, Waynesburg bed, main bench, 32-inch cut.	1592	B	1	2.56	33.15	47.34	16.95	3.22	....	....	....	....	1.4	....	....	*48*	773
			2	....	34.02	48.58	17.40	3.30	....	....	....	....	....	....	....	300	
			3	....	41.19	58.81	....	4.00	....	....	....	....	....	....	....		
Buffalo, 1¾ miles south of; Imhoff bank, lower bench of Washington 7±-foot bed, 45-inch cut.	2630	B	1	4.45	33.53	49.51	12.51	3.04	....	....	....	....	2.1	6,801	12,242	......	773
			2	....	35.09	51.82	13.09	3.18	....	....	....	....	....	7,118	12,812		
			3	....	40.38	59.62	....	3.66	....	....	....	....	....	8,190	14,742		
Charleroi, Charleroi mine, Pittsburgh bed (4,000 feet southwest of opening, 63-inch cut).	3421	A	1	2.50	34.65	57.51	5.34	1.14	....	....	....	....	1.2	7,859	14,146	332	773
			2	....	35.54	58.98	5.48	1.17	....	....	....	....	....	8,060	14,508	336	
			3	....	37.60	62.40	....	1.24	....	....	....	....	....	8,528	15,350	18	
Same (4,000 feet northwest of opening, 63¼-inch cut).	3422	A	1	2.56	34.55	55.94	6.95	2.27	....	....	....	....	1.3	....	....	332	773
			2	....	35.46	57.41	7.13	2.33	....	....	....	....	....	....	....	336	
			3	....	38.18	61.82	....	2.51	....	....	....	....	....	....	....	18	
Same (run of mine)	3532	C	1	1.95	34.07	56.69	7.29	1.18	5.13	76.86	1.44	8.10	.6	7,653	13,775	332	......
			2	....	34.75	57.82	7.43	1.20	5.01	78.39	1.47	6.50	....	7,805	14,049		
			3	....	37.54	62.46	....	1.30	5.41	84.68	1.59	7.02	....	8,435	15,183		
Ellsworth, Ellsworth No. 1 mine, Pittsburgh bed, main bench, 65-inch cut.	1047	B	1	1.22	36.28	56.24	6.26	.84	....	....	....	....	....	7,915	14,247	300	774
			2	....	36.73	56.93	6.34	.85	....	....	....	....	....	8,013	14,423	*48*	
			3	....	39.22	60.78	....	.91	....	....	....	....	....	8,555	15,399	18	
Same (room 17 off north butt entry 5, 3,000 feet north of shaft, 65-inch cut.)	1967	A	1	2.91	33.70	57.99	5.40	1.08	....	....	....	....	1.5	....	....	290	774
			2	....	34.71	59.73	5.56	1.11	....	....	....	....	....	....	....	336	
			3	....	36.75	63.25	....	1.18	....	....	....	....	....	....	....		
Ellsworth No. 2 mine, Pittsburgh bed, main bench, 64-inch cut.	1050	B	1	1.05	36.65	57.25	5.05	.91	....	....	....	....	....	....	....	*48*	774
			2	....	37.04	57.86	5.10	.92	....	....	....	....	....	....	....		
			3	....	39.03	60.97	....	.97	....	....	....	....	....	....	....		
Same (room 10 off butt entry 1, 3,000 feet southeast of shaft, 5⅓-foot cut).	1966	A	1	3.01	33.46	58.70	4.83	.73	....	....	....	....	1.5	7,887	14,197	290	774
			2	....	34.50	60.52	4.98	.75	....	....	....	....	....	8,131	14,636	18	
			3	....	36.31	63.69	....	.79	....	....	....	....	....	8,558	15,404		
Ellsworth Nos. 1 and 2 mines (mixed), over ¾-inch bar screen.	2068	C	1	2.46	34.48	57.01	6.05	.88	5.26	77.99	1.53	8.29	1.0	7,785	14,013	290	......
			2	....	35.35	58.45	6.20	.90	5.12	79.96	1.57	6.25	....	7,981	14,366		
			3	....	37.69	62.31	....	.96	5.46	85.25	1.67	6.66	....	8,509	15,316		
Frankfort (Beaver County), 1 mile southeast of; Ollum country bank, Pittsburgh bed.	1072	B	1	1.54	38.21	48.57	11.68	4.12	....	....	....	....	....	....	....	*48*	775
			2	....	38.81	49.33	11.86	4.18	....	....	....	....	....	....	....		
			2	....	44.03	55.97	....	4.74	....	....	....	....	....	....	....		
Hackett, Nottingham mine, Pittsburgh bed, breast and bottom, 5¹⁄₁₂-foot cut.	1035	B	1	1.72	36.98	56.55	4.75	1.15	....	....	....	....	....	....	....	*48*	776
			2	....	37.63	57.54	4.83	1.17	....	....	....	....	....	....	....	300	
			3	....	39.54	60.46	....	1.23	....	....	....	....	....	....	....		
Russell mine, Redstone bed, 40-inch (entire bed) cut.	1034	B	1	1.46	35.56	53.39	9.59	2.05	....	....	....	....	....	....	....	*48*	776
			2	....	36.09	54.18	9.73	2.08	....	....	....	....	....	....	....	300	
			3	....	39.98	60.02	....	2.30	....	....	....	....	....	....	....		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
PENNSYLVANIA—Continued.																	
WASHINGTON COUNTY—continued.																	
London School, Matchett country bank, Pittsburgh bed, 58-inch cut.	1051	B	1	2.48	38.74	49.18	9.60	1.85	......	......	......	......	......	7,318	13,172	*48*	776
			2	......	39.72	50.44	9.84	1.90	......	......	......	......	......	7,504	13,507		
			3	......	44.06	55.94	......	2.11	......	......	......	......	......	8,323	14,981		
Manifold, Manifold mine, Pittsburgh bed, 69½-inch cut..	1055	B	1	1.37	37.10	53.84	7.69	1.61	......	......	......	......	......	......	......	*48*	777
			2	......	37.62	54.58	7.80	1.63	......	......	......	......	......	......	......	300	
			3	......	40.80	59.20	......	1.77	......	......	......	......	......	......	......		
Marianna (near Ellsworth), Rachel and Agnes mines, Pittsburgh bed (first supply butt raise, air course, 67½-inch cut).	6858	A	1	1.44	34.61	57.77	6.18	.78	5.23	78.76	1.44	7.61	......	7,912	14,242	......	777
			2	......	35.12	58.61	6.27	.79	5.14	79.91	1.46	6.43	......	8,028	14,450		
			3	......	37.47	62.53	......	.84	5.48	85.26	1.56	6.86	......	8,565	15,417		
Same (650 feet northwest of Fulton shaft, right dip loaded track, 70½-inch cut).	6859	A	1	1.43	33.86	58.32	6.39	1.27	5.29	78.40	1.38	7.27	......	7,884	14,191	......	777
			2	......	34.35	59.17	6.48	1.29	5.20	79.54	1.40	6.09	......	7,998	14,396		
			3	......	36.73	63.27	......	1.38	5.56	85.05	1.50	6.51	......	8,552	15,394		
Same (nut coal)............................	6860	C	1	1.62	33.07	57.36	7.95	1.75	......	......	......	......	......	7,753	13,955	......	......
			2	......	33.62	58.30	8.08	1.78	......	......	......	......	......	7,881	14,186		
			3	......	36.58	63.42	......	1.94	......	......	......	......	......	8,574	15,433		
Same (roof coal)............................	6861	C	1	1.49	34.30	53.48	10.73	2.52	......	......	......	......	......	7,503	13,505	......	......
			2	......	34.82	54.29	10.89	2.56	......	......	......	......	......	7,616	13,709		
			3	......	39.08	60.92	......	2.87	......	......	......	......	......	8,547	15,385		
Same, Agnes mine, Pittsburgh bed (last open crosscut between No. 1 and No. 2 Blanche entries, 3,000 feet southwest of opening; 5½-foot bed, 5-foot 4-inch cut).	7432	A	1	2.07	32.94	59.35	5.64	1.15	......	......	......	......	1.0	......	......	......	777
			2	......	33.64	60.60	5.76	1.17	......	......	......	......	......	......	......		
			3	......	35.70	64.30	......	1.24	......	......	......	......	......	......	......		
Same (1,800 feet north of Agnes shaft; 5-foot 4-inch cut).	7459	A	1	2.18	32.25	58.43	7.14	1.64	......	......	......	......	1.4	......	......	......	777
			2	......	32.97	59.73	7.30	1.68	......	......	......	......	......	......	......		
			3	......	35.55	64.45	......	1.81	......	......	......	......	......	......	......		
Same (about 1,200 feet northeast of opening, 5-foot 6½-inch cut).	7460	A	1	2.29	33.01	59.15	5.55	.87	......	......	......	......	1.4	......	......	......	777
			2	......	33.78	60.54	5.68	.89	......	......	......	......	......	......	......		
			3	......	35.81	64.19	......	.94	......	......	......	......	......	......	......		
Same, Marianna mine, Pittsburgh bed (left rib, close to face of No. 1 Blanche heading, 7-foot ¾-inch bed).	7157	A	1	1.86	33.14	59.00	6.00	1.08	......	......	......	......	.8	......	......	......	779
			2	......	33.77	60.12	6.11	1.10	......	......	......	......	......	......	......		
			3	......	35.97	64.03	......	1.17	......	......	......	......	......	......	......		

Meadowlands, McLain mine, Pittsburgh bed, 62½-inch bed, 58½-inch cut.	1032	B	1	1.90	36.20	53.70	8.20	1.52	....	....	....	....	....	....	....	48	779
			2	....	36.90	54.74	8.36	1.55	....	....	....	....	....	....	....	300	
			3	....	40.27	59.73	....	1.69	....	....	....	....	....	....	....		
Murdocksville, natural outcrop on Bigger Run, Ames bed, 2±-foot (entire bed) cut.	1065	B	1	2.15	39.15	52.65	6.05	3.64	....	....	....	....	....	....	....	48	779
			2	....	40.01	53.81	6.18	3.72	....	....	....	....	....	....	....		
			3	....	42.65	57.35	....	3.96	....	....	....	....	....	....	....		
Paris, Fulton's country bank, Pittsburgh bed (4¾-foot bed), 56½-inch cut.	1070	B	1	1.95	39.05	47.30	11.70	3.87	....	....	....	....	....	....	....	48	779
			2	....	39.83	48.24	11.93	3.95	....	....	....	....	....	....	....		
			3	....	45.23	54.77	....	4.49	....	....	....	....	....	....	....		
Sodom School, Matchett's country bank, Pittsburgh bed, 54-inch (entire bed) cut.	1591	B	1	3.05	38.32	52.21	6.42	1.76	....	....	....	....	1.2	....	....	48	780
			2	....	39.53	53.85	6.62	1.82	....	....	....	....	....	....	....		
			3	....	42.33	57.67	....	1.95	....	....	....	....	....	....	....		
Warriors Point, McCausland's country bank, Pittsburgh bed, 4-foot (entire bed) cut.	1069	B	1	2.95	35.75	48.65	12.65	3.29	....	....	....	....	....	....	....	48	780
			2	....	36.84	50.13	13.03	3.39	....	....	....	....	....	....	....		
			3	....	42.36	57.64	....	3.79	....	....	....	....	....	....	....		
Westland, Midland No. 3 mine, Pittsburgh bed, 4½-foot cut.	1590	B	1	3.63	34.23	51.12	11.02	1.90	....	....	....	....	1.6	....	....	48	780
			2	....	35.52	53.04	11.44	1.97	....	....	....	....	....	....	....		
			3	....	40.11	59.89	....	2.22	....	....	....	....	....	....	....		
Zollarsville, Horn's country bank, Waynesburg (5-foot) bed (lower bench, 31-inch cut).	1589	B	1	2.27	32.39	47.13	18.21	2.89	....	....	....	....	1.3	....	....	300	780
			2	....	33.14	48.23	18.63	2.96	....	....	....	....	....	....	....	48	
			3	....	40.73	59.27	....	3.64	....	....	....	....	....	....	....		
Same (upper bench, 22-inch cut)...............	1588	B	1	2.90	31.68	45.76	19.66	4.43	....	....	....	....	1.7	....	....	300	780
			2	....	32.63	47.12	20.25	4.56	....	....	....	....	....	....	....	48	
			3	....	40.92	59.08	....	5.72	....	....	....	....	....	....	....		
WESTMORELAND COUNTY.																	
Greensburg, 4 miles north of; Jamison No. 2 mine, Pittsburgh bed (room 19, butt entry 10, 3,500 feet north of shaft, 81½-inch cut).	1942	A	1	2.73	30.34	57.80	9.13	1.33	....	....	....	....	1.6	7,563	13,613	290	781
			2	....	31.19	59.42	9.39	1.37	....	....	....	....	....	7,776	13,997	18	
			3	....	34.42	65.58	....	1.51	....	....	....	....	....	8,581	15,446	28	
Same (main west entry, 2,000 feet northwest of shaft, 82¾-inch cut).	1943	A	1	2.80	30.92	58.21	8.07	.83	....	....	....	....	1.7	....	....	290	781
			2	....	31.81	59.89	8.30	.85	....	....	....	....	....	....	....	18	
			3	....	34.69	65.31	....	.93	....	....	....	....	....	....	....	28	
Same (lump, over 1¼-inch bar screen)..........	2187	C	1	3.15	30.27	56.17	10.41	1.26	4.96	74.33	1.43	7.61	2.2	7,448	13,406	290	......
			2	....	31.25	58.00	10.75	1.30	4.76	76.75	1.48	4.96	....	7,690	13,842		
			3	....	35.02	64.98	....	1.46	5.33	86.00	1.65	5.56	....	8,617	15,511		
			4	....	....	....	....	....	5.42	87.27	1.68	5.63	....	8,711	15,680		
Herminie, ½ mile north of; Keystone shaft, Pittsburgh bed (4,000 feet southeast of opening, 74¼-inch cut).	4351	A	1	2.81	32.21	58.71	6.27	.99	....	....	....	....	1.7	....	....	332	782
			2	....	33.14	60.41	6.45	1.02	....	....	....	....	....	....	....	336	
			3	....	35.42	64.58	....	1.09	....	....	....	....	....	....	....	28	
Same (room 7, west butt entry 1, 1,400 feet north of opening, 62¾-inch cut).	4352	A	1	2.01	33.56	58.11	6.32	1.39	....	....	....	....	1.0	7,862	14,152	332	782
			2	....	34.25	59.30	6.45	1.42	....	....	....	....	....	8,023	14,441	336	
			3	....	36.61	63.39	....	1.52	....	....	....	....	....	8,577	15,439	28	
Same (run of mine).........................	4489	C	1	3.39	31.79	56.46	8.36	1.05	5.07	74.42	1.39	9.71	2.4	7,566	13,699	332	......
			2	....	32.90	58.44	8.66	1.08	4.84	77.03	1.43	6.96	....	7,831	14,178		
			3	....	36.02	63.98	....	1.19	5.31	84.33	1.58	7.59	....	8,573	15,522		
			4	....	....	....	....	....	5.36	85.34	1.59	7.71	....	8,649	15,568		
Huff, Keystone No. 1 mine, Pittsburgh bed, run of mine.	4498	C	1	3.98	28.13	57.73	10.16	1.00	4.96	73.34	1.53	9.01	3.1	7,395	13,311	332	......
			2	....	29.30	60.12	10.58	1.04	4.71	76.38	1.59	5.70	....	7,702	13,864	18	
			3	....	32.76	67.24	....	1.16	5.26	85.42	1.78	6.38	....	8,613	15,503		
			4	....	....	....	....	....	5.33	86.42	1.80	6.45	....	8,687	15,637		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
PENNSYLVANIA—Continued.																	
WESTMORELAND COUNTY—continued.																	
Ligonier, 3 miles north of; Ligonier mine, Pittsburgh bed (800 feet from drift mouth, room 3 off left butt entry 4, 71½-inch cut).	1994	A	1	3.30	23.03	62.49	11.18	1.79	......	......	......	......	2.4	7,432	13,378	290	782
			2	......	23.82	64.62	11.56	1.85	......	......	......	......	......	7,685	13,833	336	
			3	......	26.93	73.07	......	2.09	......	......	......	......	......	8,690	15,642	18	
Same (950 feet from drift mouth, room 3 off right entry 6, 60-inch cut).	1995	A	1	2.78	22.91	61.58	12.73	1.88	......	......	......	......	1.9	......	......	290	782
			2	......	23.57	63.34	13.09	1.93	......	......	......	......	......	......	......	332	
			3	......	27.12	72.88	......	2.22	......	......	......	......	......	......	......	28	
Same (run of mine)......	2154	C	1	4.09	20.62	62.82	12.47	2.08	4.73	72.78	1.50	6.44	3.2	7,307	13,153	290	......
			2	......	21.50	65.50	13.00	2.17	4.46	75.88	1.56	2.93	......	7,618	13,712		
			3	......	24.71	75.29	......	2.49	5.13	87.23	1.80	3.35	......	8,757	15,763		
			4	......	......	......	......	......	5.26	89.45	1.84	3.45	......	8,923	16,061		
Seward, 1½ miles east of; Seward mine, Lower Kittanning (B) bed (1,850 feet south of opening, 42¼-inch cut).	4349	A	1	2.80	17.92	71.32	7.96	2.29	......	......	......	......	2.3	......	......	332	783
			2	......	18.44	73.37	8.19	2.36	......	......	......	......	......	......	......	336	
			3	......	20.08	79.92	......	2.57	......	......	......	......	......	......	......	28	
Same (1,050 feet southwest of opening, 41½-inch cut).	4350	A	1	2.48	17.87	70.41	9.24	3.03	......	......	......	......	2.0	7,679	13,822	332	783
			2	......	18.32	72.21	9.47	3.11	......	......	......	......	......	7,874	14,173		
			3	......	20.24	79.76	......	3.44	......	......	......	......	......	8,699	15,658		
Same (run of mine)......	4517	C	1	4.00	15.89	69.57	10.54	2.85	4.79	75.41	1.12	5.29	3.6	7,415	13,347	......	......
			2	......	16.55	72.47	10.98	2.97	4.53	78.55	1.17	1.80	......	7,724	13,903		
			3	......	18.59	81.41	......	3.34	5.09	88.24	1.31	2.02	......	8,676	15,617		
RHODE ISLAND.																	
NEWPORT COUNTY.																	
Portsmouth, Portsmouth mine, at Marshall's landing (heading, 1,150 feet south of south shaft, in 900-foot gallery, 500 feet down, vertically).	9328	B	1	16.80	2.30	64.43	16.47	.59	2.12	62.63	.27	17.92	14.0	5,128	9,230	......	784
			2	......	2.76	77.44	19.80	.71	.30	75.27	.32	3.60	......	6,163	11,093		
			3	......	3.44	96.56	......	.89	.37	93.85	.41	4.48	......	7,684	13,831		
Same (south slope, on 800-foot level, 1,200 feet south of main slope, "Middle" 6-foot bed).	9329	B	1	13.26	2.56	65.30	18.88	.30	1.88	64.23	.22	14.49	9.6	5,174	9,313	......	784
			2	......	2.95	75.28	21.77	.35	.47	74.05	.25	3.11	......	5,965	10,737		
			3	......	3.78	96.22	......	.45	.60	94.66	.32	3.97	......	7,624	13,723		
Same (69 feet south of north shaft, 150 feet down vertically, 27½-inch bed, weathered).	9330	B	1	23.68	3.01	42.54	30.77	.08	3.15	42.36	.10	23.59	23.1	3,320	5,976	......	784
			2	......	3.94	55.74	40.32	.04	.68	55.50	.13	3.33	......	4,350	7,830		
			3	......	6.60	93.40	......	.05	1.14	93.00	.22	5.59	......	7,289	13,120		
Same (900 feet north of north shaft at heading in gallery, 23-inch bed).	9331	B	1	22.92	2.78	58.37	15.93	.10	2.84	58.46	.18	22.49	21.0	4,738	8,528	......	784
			2	......	3.61	75.72	20.67	.13	.38	75.85	.23	2.74	......	6,146	11,063		
			3	......	4.55	95.45	......	.16	.48	95.62	.29	3.45	......	7,748	13,946		

Same (north slope, 324 feet south and 70 feet east of landing, on main slope).	9335	B	1	15.9	2.5	49.8	31.8	.12	2.39	47.88	.18	17.63	14.8	4,055	7,300	......	784
			2	....	3.0	59.3	37.7	.14	.75	56.90	.21	4.30	....	4,820	8,675		
			3	....	5.0	95.0	....	.22	1.20	91.39	.33	6.86	....	7,740	13,930		
Same (south slope, 200 feet south of west end of cross-cut heading from 600-foot level of main bed, "Back bed").	9336	B	1	16.6	3.5	46.0	33.9	.15	2.11	45.54	.10	18.20	15.5	3,635	6,545	......	784
			2	....	4.0	55.4	40.6	.18	.32	54.57	.12	4.21	....	4,355	7,840		
			3	....	7.0	93.0	....	.30	.54	91.88	.20	7.08	....	7,335	13,200		
Same (800-foot level, 250 feet south of main slope).	9337	B	1	14.1	4.0	61.9	20.0	.09	1.93	62.53	.08	15.45	13.8	4,945	8,895	......	784
			2	....	4.5	72.3	23.2	.10	.43	72.78	.09	3.40	....	5,755	10,360		
			3	....	6.0	94.0	....	.12	.56	94.80	.12	4.39	....	7,495	13,490		
Same (800-foot level, 1,200 feet south of main slope).	9338	B	1	13.9	2.5	63.2	20.4	1.34	1.84	62.09	0.19	14.14	11.4	5,025	9,040	......	784
			2	....	2.5	73.8	23.7	1.56	.33	72.13	0.22	2.06	....	5,835	10,510		
			3	....	3.5	96.5	....	2.04	.43	94.53	0.29	2.71	....	7,650	13,770		
PROVIDENCE COUNTY.																	
								.07	.90	75.10	.17	4.70	2.0	6,109	10,996	332	......
Cranston (near Providence), Cranston mine, pit in outcrop (run of mine).	3216	C	1	2.41	4.92	73.61	19.06	.07	.65	76.95	.17	2.63	....	6,260	11,268		
			2	....	5.04	75.43	19.53	.09	.80	95.62	.22	3.27	....	7,779	14,002		
			3	....	6.26	93.74	....	....	.80	95.72	.22	3.27	....	7,784	14,011		
			4	....	....	....	....	.07	....	....	....	....	9.1	4,901	8,822	......	785
Same (pit in outcrop)	7769	A	1	9.71	2.60	61.98	25.71	.08	....	....	....	....	....	5,428	9,770		
			2	....	2.88	68.65	28.47	.11	....	....	....	....	....	7,588	13,658		
			3	....	4.03	95.97	....	.12	....	....	....	....	4.0	4,673	8,411	......	785
Same (pit in outcrop)	7770	A	1	4.51	3.46	59.67	32.36	.13	....	....	....	....	....	4,894	8,809		
			2	....	3.62	62.49	33.89	.20	....	....	....	....	....	7,403	13,325		
			3	....	5.48	94.52	....	.83	.94	78.65	.11	5.71	4.1	6,165	11,097	......	785
Same (pit in outcrop)	7771	A	1	4.54	3.01	78.69	13.76	.87	.46	82.39	.12	1.75	....	6,458	11,624		
			2	....	3.15	82.44	14.41	1.02	.54	96.26	.14	2.04	....	7,546	13,583		
			3	....	3.68	96.32	....	.11	....	....	....	....	6.8	5,758	10,364	......	785
Same (pit in outcrop)	7772	A	1	7.30	1.69	73.09	17.92	.12	....	....	....	....	....	6,211	11,180		
			2	....	1.82	78.85	19.33	.15	....	....	....	....	....	7,699	13,858		
			3	....	2.26	97.74	....										
SOUTH DAKOTA.																	
CORSON COUNTY.																	
Morristown, 12 miles southeast of; NW. ¼ sec. 19, T. 21 N., R. 21 E., surface outcrop, 35-inch cut.	7840	B	1	30.45	22.97	34.43	12.15	.39	....	....	....	....	19.7	3,858	6,944	......	786
			2	....	33.03	49.50	17.47	.56	....	....	....	....	....	5,547	9,985		
			3	....	40.02	59.98	....	.68	....	....	....	....	....	6,721	12,098		
HARDING COUNTY.																	
Cave Hills, sec. 19, T. 22 N., R. 6 E., outcrop on Riley ranch, 9-foot bed, lower bench, 5-foot cut.	2001	B	1	40.25	25.21	27.17	7.37	.50	....	....	....	....	32.3	....	....	285	785
			2	....	42.19	45.48	12.33	.84	....	....	....	....	....	....	....		
			3	....	48.12	51.88	....	.96	....	....	....	....	....	....	....		
TENNESSEE.																	
ANDERSON COUNTY.																	
Oliver Springs (Roane County), 3 miles north of; Windrock No. 1 mine, Dean bed (1,300 feet northeast of drift mouth, 53½-inch cut).	2956	A	1	3.25	35.63	54.51	6.61	.85	....	....	....	....	1.9	7,508	13,514	332	786
			2	....	36.83	56.34	6.83	.88	....	....	....	....	....	7,760	13,968	336	
			3	....	39.53	60.47	....	.94	....	....	....	....	....	8,329	14,992	18	
Same (2,000 feet south of drift mouth, 56½-inch cut).	2957	A	1	3.12	35.15	55.52	6.21	.86	....	....	....	....	1.7	....	....	332	786
			2	....	36.28	57.31	6.41	.89	....	....	....	....	....	....	....	28	
			3	....	38.77	61.23	....	.95	....	....	....	....	....	....	....		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
TENNESSEE—Continued.																	
ANDERSON COUNTY—continued.																	
Oliver Springs (Roane County), Windrock No. 1 mine—Continued.																	
Same (run of mine)	3058	C	1	6.39	32.32	51.76	9.53	0.98	5.41	70.16	1.56	12.36	4.7	6,988	12,578	332	......
			2	......	34.53	55.29	10.18	1.05	5.02	74.95	1.67	7.13	......	7,467	13,441		
			3	......	38.44	61.56	......	1.17	5.59	83.44	1.86	7.94	......	8,311	14,960		
			4	......	......	......	......	......	5.66	84.43	1.88	8.03	......	8,383	15,089		
CAMPBELL COUNTY.																	
Gatliff, Regal mine, Regal Block bed (500 feet south of drift mouth, 61-inch cut).	2929	A	1	4.25	35.31	56.31	4.13	.93	......	......	......	......	1.8	7,592	13,666	332	787
			2	......	36.88	58.81	4.31	.97	......	......	......	......	......	7,929	14,272	336	
			3	......	38.54	61.46	......	1.01	......	......	......	......	......	8,286	14,915	18	
Same (1,050 feet south of drift mouth, 52½-inch cut)	2930	A	1	4.42	35.35	57.53	2.70	.80	......	......	......	......	1.9	......	......	332	787
			2	......	36.98	60.20	2.82	.84	......	......	......	......	......	......	......	28	
			3	......	38.05	61.95	......	.86	......	......	......	......	......	......	......		
Same (run of mine)	3040	C	1	5.38	34.54	53.03	7.05	.99	5.50	72.41	1.72	12.33	3.2	7,249	13,048	332	......
			2	......	36.50	56.05	7.45	1.05	5.18	76.52	1.82	7.98	......	7,660	13,788		
			3	......	39.44	60.56	......	1.13	5.60	82.68	1.96	8.63	......	8,278	14,900		
			4	......	......	......	......	......	5.66	83.63	1.99	8.72	......	8,347	15,625		
2½ miles northeast of; Westborne mine, Log Mountain bed (687 feet northeast of opening, 3⅜-foot cut).	2931	A	1	3.61	37.29	55.69	3.41	.83	......	......	......	......	1.5	7,850	14,130	332	787
			2	......	38.69	57.77	3.54	.86	......	......	......	......	......	8,144	14,659	336	
			3	......	40.11	59.89	......	.89	......	......	......	......	......	8,443	15,197	18	
Same (675 feet south of opening, 43-inch cut)	2932	A	1	3.19	38.08	56.35	2.38	.88	......	......	......	......	1.2	......	......	332	787
			2	......	39.34	58.20	2.46	.91	......	......	......	......	......	......	......	28	
			3	......	40.33	59.67	......	.93	......	......	......	......	......	......	......		
Same (run of mine)	3129	C	1	5.09	35.79	52.31	6.81	.98	5.39	73.54	1.75	11.53	3.2	7,386	13,295	332	......
			2	......	37.71	55.11	7.18	1.03	5.08	77.48	1.84	7.39	......	7,782	14,008		
			3	......	40.63	59.37	......	1.11	5.47	83.48	1.99	7.95	......	8,384	15,091		
			4	......	......	......	......	......	5.53	84.41	2.01	8.05	......	8,453	15,215		
Lafollette, Rex No. 2 mine, Rex bed (cross heading, 4,200 feet northwest, 41 11/16-inch cut).	7498	A	1	3.03	34.01	58.05	4.91	1.77	5.19	75.78	1.62	10.73	1.3	7,699	13,858	6	788
			2	......	35.07	59.87	5.06	1.83	5.00	78.14	1.67	8.30	......	7 939	14,290		
			3	......	36.94	63.06	......	1.93	5.27	82.30	1.76	8.74	......	8,362	15,052		
Same (4,000 feet west, right cross heading 6, 46½-inch cut).	7497	A	1	2.92	32.04	58.23	6.81	1.14	5.19	74.95	1.62	10.29	1.5	7,508	13,514	6	788
			2	......	33.00	59.99	7.01	1.17	5.02	77.21	1.67	7.92	......	7,734	13,921		
			3	......	35.49	64.51	......	1.26	5.40	83.03	1.80	8.51	......	8,317	14,971		

CLAIBORNE COUNTY.																	
Fork Ridge, No. 2 mine, Mingo or Ralston bed (4,000 feet northeast of slope, 48½-inch cut).	2907	A	1	3.71	35.61	55.94	4.74	1.28	......	......	......	......	1.8	7,669	13,804	332	789
			2	......	36.98	58.10	4.92	1.33	......	......	......	......	......	7,964	14,335	336	
			3	......	38.89	61.11	......	1.40	......	......	......	......	......	8,377	15,079	18	
Same (4,400 feet east of slope, 48¾-inch cut).....	2908	A	1	3.66	34.58	54.93	6.83	.99	......	......	......	......	1.8	......	......	332	789
			2	......	35.89	57.02	7.09	1.03	......	......	......	......	......	......	......	28	
			3	......	38.63	61.37	......	1.11	......	......	......	......	......	......	......		
Same (run of mine)...........................	3016	C	1	4.81	32.91	51.13	11.15	1.58	5.13	69.22	1.60	11.32	3.0	6,983	12,569	332	......
			2	......	34.57	53.72	11.71	1.66	4.83	72.72	1.68	7.40	......	7,337	13,207		
			3	......	39.15	60.85	......	1.88	5.47	82.36	1.90	8.39	......	8,309	14,956		
			4	......	......	......	......	......	5.58	83.93	1.94	8.55	......	8,425	15,165		
CUMBERLAND COUNTY.																	
Ozone, 2½ miles south of; slack, through 1½-inch bar screen.	3471	C	1	3.53	20.75	47.85	27.87	.90	4.13	59.17	1.10	6.83	2.3	5,702	10,264	332	......
			2	......	21.51	49.60	28.89	.93	3.88	61.34	1.14	3.82	......	5,911	10,640		
			3	......	30.25	69.75	......	1.31	5.45	86.25	1.60	5.39	......	8,312	14,962		
Waldensia, 3 miles northwest of; Yellow Creek No. 1 mine, Lower Sewanee (?) bed (200 feet west of drift mouth, 3½-foot cut).	2977	A	1	3.80	30.72	60.98	4.50	.78	......	......	......	......	2.7	7,879	14,182	332	790
			2	......	31.93	63.39	4.68	.81	......	......	......	......	......	8,190	14,742	336	
			3	......	33.50	66.50	......	.85	......	......	......	......	......	8,592	15,466	18	
Same (350 feet northeast of drift mouth, 4½-foot cut).	2978	A	1	3.00	30.88	59.96	6.16	1.08	......	......	......	......	1.9	......	......	332	790
			2	......	31.83	61.82	6.35	1.11	......	......	......	......	......	......	......	28	
			3	......	33.99	66.01	......	1.19	......	......	......	......	......	......	......		
Same (run of mine)...........................	3102	C	1	3.89	27.61	54.07	14.43	.78	4.84	70.04	.98	8.93	2.9	6,952	12,514	332	......
			2	......	28.73	56.26	15.01	.81	4.59	72.88	1.02	5.69	......	7,234	13,021		
			3	......	33.80	66.20	......	.95	5.40	85.75	1.20	6.70	......	8,511	15,320		
			4	......	......	......	......	......	5.45	86.58	1.21	6.76	......	8,572	15,430		
FENTRESS COUNTY.																	
Wilder, Fentress mine, Wilder bed (2,000 feet north of drift mouth, 54½-inch cut).	2979	A	1	3.46	34.73	52.73	9.08	2.42	......	......	......	......	2.0	......	......	332	790
			2	......	35.97	54.62	9.41	2.51	......	......	......	......	......	......	......	336	
			3	......	39.71	60.29	......	2.77	......	......	......	......	......	......	......	18	
Same (1,500 feet east of drift mouth, 46¾-inch cut).	2980	A	1	3.04	36.37	50.46	10.13	3.84	......	......	......	......	1.8	7,213	12,983	332	
			2	......	37. 1	52.04	10.45	3.96	......	......	......	......	......	7,439	13,390	28	790
			3	......	41.89	58.11	......	4.42	......	......	......	......	......	8,307	14,953		
Same (screened over ½-inch by 1-inch shaker screen).	3133	C	1	3.03	34.91	49.21	12.85	3.26	5.03	69.26	1.27	8.33	1.7	7,001	12,602	332	......
			2	......	36.00	50.75	13.25	3.36	4.84	71.42	1.31	5.82	......	7,220	12,996		
			3	......	41.50	58.50	......	3.88	5.58	82.34	1.51	6.69	......	8,323	14,981		
			4	......	......	......	......	......	5.80	85.66	1.57	6.97	......	8,568	15,422		
Wilder mine, Wilder bed, room 1 on entry 3, 45¾-inch cut.	1619	A	1	2.51	35.98	49.82	11.69	2.47	......	......	......	......	1.0	......	......	......	791
			2	......	36.90	51.11	11.99	2.53	......	......	......	......	......	......	......		
			3	......	41.93	58.07	......	2.87	......	......	......	......	......	......	......		
GRUNDY COUNTY.																	
Coalmont, B mine, Sewanee or Middle Sewanee bed (1,900 feet north of drift mouth, 3-foot cut).	2995	A	1	3.44	29.24	58.11	9.21	.73	......	......	......	......	2.3	7,344	13,219	332	791
			2	......	30.28	60.18	9.54	.76	......	......	......	......	......	7,605	13,689	336	
			3	......	33.47	66.53	......	.84	......	......	......	......	......	8,408	15,134	28	
Same (2,000 feet south of drift mouth, 3½-foot cut).	2996	A	1	3.77	28.60	59.46	8.17	.68	......	......	......	......	2.4	......	......	332	791
			2	......	29.72	61.79	8.49	.71	......	......	......	......	......	......	......	336	
			3	......	32.48	67.52	......	.78	......	......	......	......	......	......	......	28	
Same (lump, over ¾-inch screen, 20 tons)......	3113	C	1	3.92	27.23	54.76	14.09	.94	4.81	69.97	1.29	8.90	2.6	6,949	12,508	332	......
			2	......	28.34	57.00	14.66	.98	4.55	72.82	1.34	5.65	......	7,233	13,019		
			3	......	33.21	66.79	......	1.15	5.33	85.34	1.57	6.61	......	8,475	15,255		
			4	......	......	......	......	......	5.39	86.32	1.59	6.70	......	8,548	15,386		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
TENNESSEE—Continued.																	
GRUNDY COUNTY—continued.																	
Coalmont, B mine—Continued.																	
Same (slack, through ¾-inch screen, 10 tons)....	3114	C	1	5.68	25.36	50.41	18.55	0.74	5.02	64.58	1.20	9.91	4.7	6,378	11,480	332	......
			2	......	26.89	53.44	19.67	.78	4.65	68.47	1.27	5.16	......	6,762	12,172		
			3	......	33.48	66.52	......	.97	5.79	85.23	1.58	6.42	......	8,418	15,152		
			4	......	......	......	......	......	5.85	86.06	1.60	6.49	......	8,478	15,260		
Same (washed slack, 14 tons)..................	3115	C	1	4.68	28.75	57.31	9.26	.65	5.04	73.85	1.24	9.96	3.3	7,313	13,163	332	......
			2	......	30.16	60.13	9.71	.68	4.74	77.48	1.30	6.09	......	7,672	13,810		
			3	......	33.40	66.60	......	.76	5.25	85.81	1.44	6.74	......	8,498	15,296		
			4	......	......	......	......	......	5.29	86.46	1.45	6.80	......	8,544	15,379		
MARION COUNTY.																	
Orme, 1 mile north of; Battle Creek mine, Battle Creek bed (2,200 feet northeast of opening, 65-inch cut).	3009	A	1	3.31	31.71	51.87	13.11	1.30	......	......	......	......	2.0	6,77	12,193	332	792
			2	......	32.80	53.64	13.56	1.34	......	......	......	......	......	7,006	12,611	336	
			3	......	37.95	62.05	......	1.55	......	......	......	......	......	8,105	14,589	28	
Same (2,500 feet northwest of opening, 5½-foot cut).	3010	A	1	3.37	32.38	53.13	11.12	.65	......	......	......	......	2.0	......	......	332	792
			2	......	33.51	54.98	11.51	.67	......	......	......	......	......	......	......	336	
			3	......	37.87	62.13	......	.77	......	......	......	......	......	......	......	28	
MORGAN COUNTY.																	
Petros, Big Brushy Nos. 1 and 2 mines, Brushy Mountain bed (2,500 feet southeast of drift mouth, 31½-inch cut).	2958	A	1	2.25	35.37	55.47	6.91	2.96	......	......	......	......	1.3	7,695	13,851	332	793
			2	......	36.18	56.7	7.07	3.03	......	......	......	......	......	7,872	14,170	336	
			3	......	38.93	61.07	......	3.26	......	......	......	......	......	8,471	15,248	18	
Same (3,800 feet east of drift mouth, 35-inch cut).	2959	A	1	2.20	36.76	52.84	8.20	3.84	......	......	......	......	.9	......	......	332	793
			2	......	37.59	54.03	8.38	3.93	......	......	......	......	......	......	......	28	
			3	......	41.02	58.98	......	4.29	......	......	......	......	......	......	......		
Same (run of mine).........................	3050	C	1	5.59	33.62	51.03	9.76	3.23	5.24	70.08	1.62	10.07	4.3	7,135	12,841	332	......
			2	......	35.61	54.05	10.34	3.42	4.89	74.23	1.72	5.40	......	7,558	13,604		
			3	......	39.72	60.28	......	3.82	5.46	82.79	1.91	6.02	......	8,429	15,172		
			4	......	......	......	......	......	5.67	86.07	1.99	6.27	......	8,673	15,611		
OVERTON COUNTY.																	
Crawford, Crawford mine, Wilder seam, west side, 1,000 feet from drift, 59½-inch cut.	1617	B	1	2.71	35.43	47.56	14.30	3.28	......	......	......	......	1.1	......	......	......	794
			2	......	36.42	48.88	14.70	3.37	......	......	......	......	......	......	......		
			3	......	42.70	57.30	......	3.95	......	......	......	......	......	......	......		

WHITE COUNTY.																	
Clifty, Clifty No. 1 mine, Sewanee bed (2,100 feet north of drift mouth, 36¼-inch cut).	3005	A	1	3.01	34.70	51.53	10.76	3.42					1.9	7,280	13,104	332	794
			2		35.78	53.13	11.09	3.53						7,506	13,511	336	
			3		40.25	59.75		3.97						8,443	15,197	28	
Same (1,900 feet north of drift mouth, 47⅜-inch cut).	3006	A	1	3.23	32.18	53.43	11.16	3.58					2.2			332	794
			2		33.25	55.22	11.53	3.70								18	
			3		37.58	62.42		4.18									
Same ("special run of mine," over ¾-inch screen + 8 per cent slack).	3127	C	1	2.63	33.51	50.44	13.42	4.38	4.89	69.32	1.15	6.84	1.6	7,064	12,715	332	
			2		34.42	51.80	13.78	4.50	4.72	71.19	1.18	4.63		7,255	13,059		
			3		39.92	60.08		5.22	5.48	82.57	1.37	5.36		8,415	15,147		
			4						5.78	87.11	1.44	5.67		8,753	15,755		
Same ("screened run of mine," over ¾-inch screen + 18 per cent slack).	3128	C	1	3.12	32.91	49.85	14.12	4.74	4.68	68.20	1.23	7.03	2.0	6,954	12,517	332	
			2		33.97	51.46	14.57	4.89	4.47	70.40	1.27	4.40		7,178	12,920		
			3		39.76	60.24		5.73	5.23	82.41	1.49	5.14		8,403	15,125		
			4						5.55	87.42	1.58	5.45		8,776	15,797		
TEXAS.																	
HOUSTON COUNTY.																	
Crockett, 11 miles south of; Wootters station, Wootters mine (room 17 off north entry 3, 890 feet from foot of shaft, 5-foot cut).	1195	A	1	32.58	37.02	19.56	10.84	.56					14.4			261	795
			2		54.91	29.01	16.08	.83								*48*	
			3		65.43	34.57		.99									
Same (main entry, 600 feet from foot of shaft, 5⅔-foot cut).	1196	A	1	33.50	39.50	16.25	10.75	.56					16.3	3,968	7,142	261	795
			2		59.40	24.43	16.17	.84						5,967	10,741	*48*	
			3		70.86	29.14		1.00						7,117	12,811		
Same (over ½-inch bar screen)	1456	C	1	34.70	32.23	21.87	11.20	.79	6.93	39.25	.72	41.11	24.6	3,920	7,056	261	
			2		49.36	33.49	17.15	1.21	4.70	60.11	1.10	15.73		6,003	10,805	*48*	
			3		59.58	40.42		1.46	5.67	72.55	1.33	18.99		7,246	13,043		
			4						5.76	73.62	1.35	19.27		7,320	13,176		
MEDINA COUNTY.																	
Lytle (Atascosa County), 2 miles southwest of; Carr No. 3 mine (350 feet northeast entry 6, 51½-inch cut).	7331	A	1	31.67	24.81	26.49	17.03	3.55					24.4				795
			2		36.31	38.77	24.92	5.20									
			3		48.36	51.64		6.93									
Same (600 feet northwest, room at middle of northwest entry 5, 49¼-inch cut).	7330	A	1	32.92	27.42	27.08	12.58	1.46					24.2	3,800	6,840	14	795
			2		40.88	40.37	18.75	2.18						5,665	10,197		
			3		50.32	49.68		2.68						6,972	12,550		
MILAM COUNTY.																	
Olsen, Olsen mine (400 feet east of shaft, 77-inch cut)	2562	A	1	36.01	27.95	28.66	7.38	.77					29.1	3,962	7,132	332	796
			2		43.68	44.79	11.53	1.20						6,192	11,146	18	
			3		49.37	50.63		1.36						6,999	12,598		
Same (500 feet east of shaft, 79-inch cut)	2563	A	1	35.56	28.91	27.49	8.04	.75					29.0			332	796
			2		44.86	42.66	12.48	1.16								18	
			3		51.26	48.74		1.33									
Same (lump, over ¾-inch screen)	2734	C	1	31.06	27.67	33.39	7.88	.99	6.53	44.70	.90	39.00	23.5	4,372	7,870	332	
			2		40.14	48.43	11.43	1.43	4.46	64.84	1.31	16.53		6,342	11,416		
			3		45.32	54.68		1.61	5.04	73.21	1.48	18.66		7,161	12,890		
			4						5.12	74.40	1.50	18.98		7,242	13,034		
Rockdale, 3½ miles northeast of; Big Lump mine (720 feet north of opening, entry 6, 7-foot cut). "Big Vein."	7271	A	1	35.86	26.50	29.72	7.92	.87					31.8				796
			2		41.32	46.34	12.34	1.36									
			3		47.13	52.87		1.55									
Same (1,020 feet northwest entry 8, 82-inch cut).	7270	A	1	35.30	26.22	29.58	8.90	.76					31.5	3,832	6,898	14	796
			2		40.53	45.71	13.76	1.17						5,923	10,661		
			3		47.00	53.00		1.36						6,868	12,362		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.					Ultimate.				Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
TEXAS—Continued.																	
ROBERTSON COUNTY.																	
Calvert, 6 miles west of Calvert mine (room 4 off entry 1 south, 250 feet south of opening, Upper, 81½-inch bed, 77-inch cut).	7403	A	1	34.33	25.94	30.93	8.80	0.95	......	......	......	......	29.3	4,008	7,214	14	797
			2	......	39.50	47.10	13.40	1.45	......	......	......	......	......	6,103	10,985		
			3	......	45.61	54.39	......	1.67	......	......	......	......	......	7,047	12,685		
Same (room 8 off east entry north, 550 feet northeast of opening, 83½-inch bed, 78½-inch cut).	7404	A	1	33.50	26.06	30.38	10.06	.97	......	......	......	......	27.9	......	......	......	797
			2	......	39.19	45.68	15.13	1.46	......	......	......	......	......	......	......		
			3	......	46.18	53.82	......	1.72	......	......	......	......	......	......	......		
WOOD COUNTY.																	
Hoyt, No. 1 mine, south entry 2, 500 feet from mouth, 8½-foot cut).	1241	A	1	28.86	35.96	27.26	7.92	.50	......	......	0.80	......	5.8	4,442	7,996	261	797
			2	......	50.55	38.32	11.13	.70	......	......	1.12	......	......	6,244	11,239	*48*	
			3	......	56.88	43.12	......	.79	......	......	......	......	......	7,026	12,647	18	
No. 3 mine (foot of air shaft, 94-inch cut)	1243	A	1	31.34	41.18	18.98	8.50	.57	......	......	......	......	5.9	......	......	261	797
			2	......	59.98	27.64	12.38	.83	......	......	......	......	......	......	......	*48*	
			3	......	68.46	31.54	......	.95	......	......	......	......	......	......	......	18	
Same (run of mine)	1597	C	1	33.71	29.25	29.76	7.28	.53	6.79	42.52	.79	42.09	25.8	4,082	7,348	261	......
			2	......	44.12	44.89	10.99	.80	4.60	64.14	1.19	18.28	......	6,158	11,084		
			3	......	49.57	50.43	......	.90	5.17	72.06	1.33	20.54	......	6,918	12,452		
Same (screened)	1610	C	1	33.98	31.01	27.33	7.68	.56	......	......	......	......	25.8	......	......	*48*	......
			2	......	46.97	41.40	11.63	.84	......	......	......	......	......	......	......		
			3	......	53.15	46.85	......	.95	......	......	......	......	......	......	......		
Same (1,100 feet southeast of slope, 6½-foot cut).	2635	A	1	36.80	28.86	28.09	6.25	.53	......	......	......	......	29.9	3,945	7,101	332	797
			2	......	45.66	44.45	9.89	.84	......	......	......	......	......	6,242	11,236		
			3	......	50.67	49.33	......	.93	......	......	......	......	......	6,927	12,469		
Same (400 feet northeast of slope, 8½-foot cut)	2636	A	1	34.87	29.80	27.69	7.64	.50	......	......	......	......	28.4	......	......	332	797
			2	......	45.75	42.52	11.73	.77	......	......	......	......	......	......	......		
			3	......	51.83	48.17	......	.87	......	......	......	......	......	......	......		
Same (run of mine)	2717	C	1	33.85	27.50	31.35	7.30	.51	6.68	43.12	.71	41.68	26.7	4,165	7,497	332	......
			2	......	41.57	47.39	11.04	.77	4.41	65.18	1.07	17.53	......	6,296	11,333		
			3	......	46.73	53.27	......	.87	4.96	73.27	1.21	19.69	......	7,077	12,739		
			4	......	......	......	......	......	5.01	73.92	1.22	19.85	......	7,120	12,816		
UTAH.																	
CARBON COUNTY.																	
Castlegate, sec. 2, T. 13 S., R. 9 E., Castlegate bed (east part of mine, 10-foot cut).	2097	B	1	6.13	40.07	45.45	8.35	.56	......	......	......	......	3.5	6,787	12,217	285	798
			2	......	42.69	48.41	8.90	.60	......	......	......	......	......	7,230	13,014	316	
			3	......	46.86	53.14	......	.66	......	......	......	......	......	7,936	14,285		

Same (west part of mine, 6-foot cut)...........	2098	B	1	4.72	39.13	48.45	7.70	.49	......	......	......	......	1.3	7,045	12,681	285	798
			2	......	41.07	50.85	8.08	.51	......	......	......	......	......	7,394	13,309	316	
			3	......	44.68	55.32	......	.55	......	......	......	......	......	8,044	14,479		
10 miles east of, sec. 3, T. 13 S., R. 11 E., in Coal Creek Canyon, Gibson prospect, 5-foot cut.	2193	B	1	5.42	36.32	52.16	6.10	.54	......	......	......	......	1.0	6,789	12,220	285	798
			2	......	38.40	55.15	6.45	.57	......	......	......	......	......	7,178	12,920		
			3	......	41.05	58.95	......	.61	......	......	......	......	......	7,673	13,811		
10½ miles east of, sec. 10, T. 13 S., R. 11 E., in Coal Creek Canyon, Bean prospect, 98-inch bed, 97-inch cut.	2188	B	1	4.09	38.06	52.59	5.26	.48	......	......	......	......	1.1	......	......	285	799
			2	......	39.68	54.84	5.48	.50	......	......	......	......	......	......	......		
			3	......	41.98	58.02	......	.53	......	......	......	......	......	......	......		
Clear Creek, sec. 33, T. 13 S., R. 7 E., Clear Creek mine, 3,000 feet in, Clear Creek bed, 13$\frac{1}{12}$-foot cut.	2542	B	1	7.02	41.89	45.80	5.29	.57	......	......	......	......	3.1	......	......	285	799
			2	......	45.05	49.26	5.69	.61	......	......	......	......	......	......	......		
			3	......	47.77	52.23	......	.65	......	......	......	......	......	......	......	285	
Kenilworth, 4 miles east of Helper, Aberdeen mine, Book Cliffs bed (3 places—main slope, 1,880 feet north; right slope, 1,880 feet north; fifth left slope, 1,560 feet north by 132 feet west, 22-foot bed)[a].	10046	B	1	4.47	40.79	49.98	4.76	.32	5.57	72.72	1.25	15.38	......	7,212	12,982		799
			2	......	42.70	52.32	4.98	.33	5.31	76.12	1.31	11.95	......	7,550	13,590		
			3	......	44.94	55.06	......	.35	5.59	80.11	1.38	12.57	......	7,946	14,303		
Same (all parts of mine)[a].....................	10044	B	1	3.20	64.31	28.34	4.15	.35	......	......	......	......	1.4	......	......	285	799
			2	......	66.44	29.27	4.29	.36	......	......	......	......	......	......	......		
			3	......	69.42	30.58	......	.38	......	......	......	......	......	......	......		
Four Points mine, Lower bed (650 feet northwest of slope, 154-inch cut).	352D	A	1	5.90	40.11	47.70	6.29	.36	......	......	......	......	2.0	......	......	285	799
			2	......	42.63	50.69	6.68	.38	......	......	......	......	......	......	......	332	
			3	......	45.68	54.32	......	.41	......	......	......	......	......	......	......	285	
Same (1,100 feet northwest of slope, 12-foot 6½-inch cut).	353D	A	1	5.16	40.71	48.78	5.35	.33	......	......	......	......	1.4	7,150	12,870	332	799
			2	......	42.92	51.44	5.64	.36	......	......	......	......	......	7,539	13,570		
			3	......	45.49	54.51	......	.38	......	......	......	......	......	7,990	14,382		
Same (run of mine, 40 tons)..................	346D	C	1	5.58	38.92	46.51	8.99	.51	5.27	67.84	1.07	16.32	1.1	67.61	12,170	368	......
			2	......	41.22	49.26	9.52	.54	4.92	71.85	1.14	12.03	......	7,161	12,889		
			3	......	45.56	54.44	......	.60	5.44	79.41	1.25	13.30	......	7,914	14,245		
Royal Blue mine, Book Cliffs bed, 582 feet north by 175 feet west, 96-inch cut.[a]	10045	B	1	5.29	41.51	48.87	4.33	.62	5.53	72.25	1.17	16.10	......	7,093	12,767	285	800
			2	......	43.83	51.60	4.57	.65	5.22	76.29	1.24	12.03	......	7,489	13,480		
			3	......	45.93	54.07	......	.68	5.47	79.94	1.30	12.61	......	7.848	14,126		
Price, Huntington Creek prospect, run of mine.........	3199	C	1	6.05	42.02	47.06	4.87	.55	5.76	72.32	1.38	15.12	3.8	7,306	13,151	332	......
			2	......	44.73	50.09	5.18	.59	5.42	76.98	1.47	10.36	......	7,776	13,997	18	
			3	......	47.17	52.83	......	.62	5.71	81.19	1.55	10.93	......	8,202	14,764		
			4	......	......	......	......	......	5.75	81.70	1.54	11.01	......	8,240	14,832		
Sunnyside, sec. 32, T. 14 S., R. 14 E., near mouth of Whitmore Canyon, No. 1 mine, Upper (70-inch) bed.	2189	B	1	3.37	38.04	52.75	5.84	.60	......	......	......	......	1.3	......	......	285	800
			2	......	39.37	54.59	6.04	.62	......	......	......	......	......	......	......		
			3	......	41.90	58.10	......	.66	......	......	......	......	......	......	......		
Sunnyside mines, upper and lower beds, composite sample.	2192	B	1	3.43	37.72	51.68	7.17	.78	......	......	......	......	1.5	......	......	285	800
			2	......	39.06	53.52	7.42	.81	......	......	......	......	......	......	......		
			3	......	42.19	57.81	......	.87	......	......	......	......	......	......	......		
12 miles northwest of; SE. ¼ NW. ¼ sec. 23, T. 13 S., R. 12 E., in Dugout Canyon, 9½-foot bed (not worked), 9½-foot cut.	2190	B	1	4.98	38.20	52.94	3.88	.54	......	......	......	......	2.4	......	......	285	801
			2	......	40.20	55.72	4.08	.57	......	......	......	......	......	......	......		
			3	......	41.91	58.09	......	.59	......	......	......	......	......	......	......		
Winterquarters, N. ½ sec. 7, T. 13 S., R. 7 E., No. 1 mine, 6,000 feet in, Winterquarters bed, 16-foot cut.	2541	B	1	8.10	40.21	45.91	5.78	.86	......	......	......	......	3.9	6,758	12,162	285	801
			2	......	43.75	49.96	6.29	.94	......	......	......	......	......	7,354	13,237	316	
			3	......	46.69	53.31	......	1.00	......	......	......	......	......	7,847	14,125		

[a] Sample taken by mine operator according to official method of Bureau of Mines.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
UTAH—Continued.																	
EMERY COUNTY.																	
Clear Creek (Carbon County), 5 miles southeast of; 12 miles east of Fairview (Sanpete County), S. ½ sec. 24, T. 14 S., R. 7 E., Huntington Canyon, prospect pit, 9$\frac{7}{12}$-foot cut.	2410	B	1	6.04	38.96	48.40	6.60	0.83	......	......	......	......	2.9	......	......	285	801
			2	......	41.46	51.52	7.02	.88	......	......	......	......	......	......	......	316	
			3	......	44.59	55.41	......	.95	......	......	......	......	......	......	......		
Emery, 6 miles southeast of; NE. ¼ SW. ¼ sec. 2, T. 23 S., R. 6 E., west of Muddy Creek Canyon, Emery mine, 50 feet in, Emery (5-foot) bed, 5-foot cut.	2386	B	1	5.11	36.71	50.42	7.76	2.06	......	......	......	......	.8	......	......	285	802
			2	......	38.69	53.13	8.18	2.17	......	......	......	......	......	......	......		
			3	......	42.14	57.86	......	2.36	......	......	......	......	......	......	......		
Huntington, 7 miles northwest of; NE. ¼ sec. 11, T. 14 S., R. 6 E., in Huntington Canyon, Bear Gulch prospect, 10-foot 11-inch cut.	2409	B	1	5.19	43.89	46.91	4.01	.81	......	......	......	......	2.3	......	......	285	802
			2	......	46.29	49.48	4.23	.33	......	......	......	......	......	......	......	316	
			3	......	48.34	51.66	......	.34	......	......	......	......	......	......	......		
Mount Pleasant (Sanpete County), 12 miles east of; sec. 2, T. 15 S., R. 6 E., Larsen mine, Larsen bed (600 feet from entrance, 8-foot cut).	2387	B	1	8.46	41.17	46.09	4.28	.48	......	......	......	......	3.5	......	......	285	802
			2	......	44.97	50.35	4.68	.52	......	......	......	......	......	......	......	316	
			3	......	47.18	52.82	......	.55	......	......	......	......	......	......	......		
Same (7½-foot cut)	2142	B	1	7.76	42.41	47.02	2.81	.52	......	......	......	......	3.9	......	......	......	802
			2	......	45.98	50.97	3.05	.56	......	......	......	......	......	......	......		
			3	......	47.43	52.57	......	.58	......	......	......	......	......	......	......		
Woodside, 4 miles east of; Peterson prospect, weathered some, 48-inch cut.	3957	B	1	4.75	33.58	50.24	11.43	1.15	......	......	......	......	2.3	......	......	316	803
			2	......	35.26	52.74	12.00	1.21	......	......	......	......	......	......	......	371	
			3	......	40.07	59.93	......	1.38	......	......	......	......	......	......	......		
13 miles north of; 8 miles south of Sunnyside (Carbon County), Prentiss prospect, lower bed, 16-foot cut.	4014	B	1	9.79	33.39	50.44	6.38	.60	......	......	......	......	3.5	......	......	316	803
			2	......	37.01	55.92	7.07	.67	......	......	......	......	......	......	......	371	
			3	......	39.83	60.17	......	.72	......	......	......	......	......	......	......		
Same (weathered, 16-foot cut)	4013	B	1	9.01	31.78	51.03	8.18	.46	4.97	62.22	1.25	22.92	4.1	6,035	10,863	316	......
			2	......	34.93	56.08	8.99	.51	4.36	68.38	1.37	16.39	......	6,633	11,939	371	
			3	......	38.38	61.62	......	.56	4.66	75.14	1.51	18.13	......	7,288	13,118		
			4	......	......	......	......	......	4.68	75.56	1.52	18.24	......	7,316	13,169		
14 miles north of; 8 miles northeast of Verde, sec. 4 (?), T. 16 S., R. 14 E., in Horse Canyon, 14$\frac{11}{12}$-foot cut. Horse Canyon bed.	2200	B	1	4.76	38.16	52.09	4.99	.74	......	......	......	......	1.0	7,325	13,185	285	804
			2	......	40.07	54.69	5.24	.78	......	......	......	......	......	7,691	13,844		
			3	......	42.28	57.72	......	.82	......	......	......	......	......	8,116	14,607		
14± miles north of; 8± miles northeast of Verde, sec. 4, T. 16 S., R. 14 E., west side of Horse Canyon, 400 feet from opening, cut 13 feet 5 inches.	4015	B	1	5.20	36.03	52.69	6.08	.83	5.26	71.22	1.29	15.32	2.9	7,239	13,030	316	804
			2	......	38.01	55.58	6.41	.88	4.94	75.13	1.36	11.28	......	7,636	13,745	371	
			3	......	40.61	59.39	......	.94	5.27	80.28	1.45	12.06	......	8,159	14,686		
			4	......	......	......	......	......	5.32	81.03	1.47	12.18	......	8,215	14,787		

GRAND COUNTY.																	
Green River, 10 miles northeast of; sec. 23, T. 20 S., R. 17 E., Black Baby mine, 20 feet in west entry, 7¾-foot bed, 5½-foot cut.	3945	B	1	5.58	32.77	43.61	18.04	.72	......	......	......	......	1.9	......	......	316	804
			2	......	34.71	46.18	19.11	.76	......	......	......	......	......	......	......	371	
			3	......	42.91	57.09	......	.94	......	......	......	......	......	......	......		
Thompsons, 5 miles north of; T. 21 S., R. 20 E., Ballard mine, 69½-inch bed, full bed cut.	3856	B	1	6.35	31.89	42.74	19.02	.58	5.01	59.10	1.32	14.97	2.3	5,890	10,602	316	805
			2	......	34.05	45.64	20.31	.62	4.59	63.11	1.41	9.96	......	6,289	11,320	371	
			3	......	42.73	57.27	......	.78	5.76	79.19	1.77	12.50	......	7,892	14,206		
			4	......	......	......	......	......	5.81	79.81	1.78	12.60	......	7,937	14,287		
Same (75 feet above Ballard mine, 11 feet in tunnel, 4½-foot cut).	3857	B	1	9.57	32.37	47.09	10.97	.46	......	......	......	......	2.5	......	......	316	805
			2	......	35.80	52.07	12.13	.51	......	......	......	......	......	......	......	371	
			3	......	40.74	59.26	......	.58	......	......	......	......	......	......	......		
8½ miles north of; T. 20 S., R. 21 E., in Nash Canyon, 1½ miles northwest of Nash ranch, 4⅔-foot cut.	3854	B	1	12.74	33.04	50.06	4.16	.46	......	......	......	......	4.5	......	......	316	805
			2	......	37.86	57.37	4.77	.53	......	......	......	......	......	......	......	371	
			3	......	39.76	60.24	......	.56	......	......	......	......	......	......	......		
IRON COUNTY.																	
Cedar City, 4 miles southeast of; sec. 31, T. 36 S., R. 10 W., west edge of Colob Plateau near top, altitude 8,700± feet, Corry mine, 43-inch bed, 29-inch cut.	3761	B	1	5.24	39.82	43.44	11.50	6.81	......	......	......	......	1.7	......	......	316	806
			2	......	42.02	45.84	12.14	7.19	......	......	......	......	......	......	......		
			3	......	47.83	52.17	......	8.18	......	......	......	......	......	......	......		
Same, 92-inch bed, 77-inch cut	5494	B	1	4.93	37.24	44.79	13.04	6.72	5.11	63.01	.93	11.19	1.4	6,340	11,412	341	806
			2	......	39.17	47.11	13.72	7.07	4.80	66.28	.98	7.15	......	6,669	12,004		
			3	......	45.40	54.60	......	8.19	5.56	76.82	1.14	8.29	......	7,729	13,912		
7 miles east of; NW. ¼ sec. 4, T. 37 S., R. 10 W., South Fork Coal Creek Canyon, Wood and Taylor mine, near top of Colob Plateau, altitude 8,900± feet, 390 feet from mouth, 101-inch bed, 50-inch cut.	3760	B	1	4.92	37.96	43.18	13.94	6.56	......	......	......	......	2.1	......	......	316	807
			2	......	39.92	45.42	14.66	6.90	......	......	......	......	......	......	......		
			3	......	46.78	53.22	......	8.09	......	......	......	......	......	......	......		
7 miles southeast of; NW. ¼ sec. 36, T. 36 S., R. 10 W., on Coal Creek, Jones mine, 100 feet from entrance, 48-inch bed.	5304	B	1	10.35	36.33	43.70	9.62	5.82	5.13	61.24	.95	17.24	1.8	6,041	10,874	341	807
			2	......	40.52	48.75	10.73	6.49	4.44	68.31	1.06	8.97	......	6,738	12,128		
			3	......	45.39	54.61	......	7.27	4.97	76.52	1.19	10.05	......	7,548	13,586		
8 miles southeast of; SE. ¼ sec. 36, T. 36 S., R. 10 W., in Coal Creek Canyon, Jones and Bullock mine, altitude 7,200 feet, 55-inch bed, 46½-inch cut.	3762	B	1	8.54	36.45	46.22	8.79	5.85	......	......	......	......	2.3	......	......	316	808
			2	......	39.85	50.54	9.61	6.40	......	......	......	......	......	......	......		
			3	......	44.09	55.91	......	7.08	......	......	......	......	......	......	......		
Kanarraville, 4 miles northeast of; sec. 28, T. 37 S., R. 11 W., near top at margin of Colob Plateau, 270 feet in, 86-inch cut.	3830	B	1	13.35	38.34	42.95	5.36	5.74	......	......	......	......	5.0	......	......	316	808
			2	......	44.25	49.56	6.19	6.62	......	......	......	......	......	......	......		
			3	......	47.17	52.83	......	7.06	......	......	......	......	......	......	......		
5 miles east of; NW. ¼ sec. 33, T. 37 S., R. 11 W., Kanarra mine, cut 8 feet 9 inches.	5307	B	1	12.56	36.43	46.21	4.80	5.24	5.67	62.13	.93	21.23	1.6	6,079	10,942	341	809
			2	......	41.66	52.85	5.49	5.99	4.88	71.05	1.06	11.53	......	6,952	12,514		
			3	......	44.08	55.92	......	6.34	5.16	75.18	1.12	12.20	......	7,356	13,241		
6 miles northeast of; 7 miles south of Cedar City, NW. ¼ sec. 24, T. 37 S., R. 11 W., on Shirts Creek, west edge of Colob Plateau, Culver mine, altitude 8,000 feet (125 feet from mouth, 79-inch cut).	3687	B	1	13.20	35.58	41.75	9.47	4.42	......	......	......	......	5.4	......	......	316	809
			2	......	40.99	48.10	10.91	5.09	......	......	......	......	......	......	......		
			3	......	46.01	53.99	......	5.71	......	......	......	......	......	......	......		
Same (95-inch cut)	5305	B	1	14.19	33.39	42.50	9.92	5.39	5.20	55.27	.85	23.37	2.8	5,515	9,927	341	809
			2	......	38.91	49.53	11.56	6.28	4.22	64.41	.99	12.54	......	6,427	11,569		
			8	......	44.00	56.00	......	7.10	4.77	72.83	1.12	14.18	......	7,267	13,081		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
UTAH—Continued.																	
IRON COUNTY—continued.																	
New Harmony, 4 miles northwest of; sec. 32, T. 37 S., R. 13 W. (New Harmony mine, altitude 6,200 feet,[a] 53-inch cut).	3793	B	1	11.01	10.39	36.09	42.51	3.27	......	......	......	......	7.9	......	......	316	809
			2	......	11.68	40.55	47.77	3.67	......	......	......	......	......	......	......		
			3	......	22.36	77.64	......	7.03	......	......	......	......	......	......	......		
Same (Harmony mine, altitude 6,200 feet,[a] 56-inch cut).	3794	B	1	4.61	5.11	47.31	42.97	4.44	......	......	......	......	2.4	......	......	316	809
			2	......	5.36	49.59	45.05	4.65	......	......	......	......	......	......	......		
			3	......	9.75	90.25	......	8.46	......	......	......	......	......	......	......		
Same (entry No. 3, altitude 6,000± feet, No. 3 bed, 4½-foot cut, regular sample).[b]	5309	B	1	8.29	13.44	45.64	32.63	3.17	3.55	48.48	0.85	11.32	3.9	4,575	8,235	341	809
			2	......	14.65	49.77	35.58	3.46	2.87	52.86	.93	4.30	......	4,989	8,979		
			3	......	22.74	77.26	......	5.37	4.45	82.07	1.44	6.67	......	7,744	13,938		
Same (entry No. 3, altitude 6,000 ±feet, No. 3 bed, picked sample[b]).	5310	B	1	9.50	13.22	49.22	28.06	3.55	3.44	51.44	.85	12.66	5.7	4,922	8,860	341	809
			2	......	14.61	54.39	31.00	3.92	2.63	56.85	.94	4.66	......	5,439	9,790		
			3	......	21.17	78.83	......	5.68	3.82	82.39	1.36	6.75	......	7,883	14,188		
Same (entry No. 3, altitude 6,000± feet, No. 4 bed,[b] 4½-foot cut).	5312	B	1	7.02	10.30	60.61	22.07	4.06	3.32	62.77	.92	6.86	3.6	5,782	10,408	341	809
			2	......	11.08	65.18	23.74	4.37	2.73	67.50	.99	.67	......	6,219	11,194		
			3	......	14.53	85.47	......	5.73	3.58	88.51	1.30	.88	......	8,155	14,679		
Same (entry No. 4, No. 6 bed,[b] 4-foot cut)......	5311	B	1	8.21	4.41	58.02	20.36	2.28	2.98	53.31	.90	11.17	5.2	4,949	8,908	341	809
			2	......	4.80	63.21	31.99	2.48	2.26	58.07	.98	4.22	......	5,392	9,705		
			3	......	7.06	92.94	......	3.65	3.32	85.38	1.44	6.21	......	7,928	14,270		
KANE COUNTY.																	
Glendale, ½ mile northeast of; NW ¼ sec. 24, T. 40 S., R. 7 W., Glendale mine, 86-inch cut.	5341	B	1	20.56	32.43	40.79	6.22	1.19	6.08	57.11	1.01	28.39	4.7	5,441	9,794	341	810
			2	......	40.82	51.35	7.83	1.50	4.78	71.89	1.27	12.73	......	6,849	12,329		
			3	......	44.29	55.71	......	1.63	5.19	78.00	1.38	13.80	......	7,431	13,376		
13 miles northwest of; NE. ¼ sec. 26, T. 39 S., R 9 W., on North Fork Virgin River, Cannel King prospect, 66-inch bench (upper 2 feet).	5306	B	1	15.74	41.92	28.00	14.34	1.32	6.11	51.96	1.16	25.11	4.5	5,282	9,508	341	811
			2	......	49.75	33.23	17.02	1.57	5.17	61.67	1.38	13.19	......	6,269	11,284		
			3	......	59.95	40.05	......	1.89	6.23	74.32	1.66	15.90	......	7,555	13,599		
Same (lower 3½ feet)......	5308	B	1	7.35	46.93	22.48	23.24	1.61	6.18	51.88	1.06	16.03	1.1	5,753	10,355	341	811
			2	......	50.65	24.27	25.08	1.74	5.79	56.00	1.14	10.25	......	6,209	11,797		
			3	......	67.61	32.39	......	2.32	7.73	74.75	1.52	13.68	......	8,288	14,918		
Same, 29-inch cut......	5313	B	1	12.69	37.34	46.03	3.94	4.03	5.43	62.95	.98	22.67	2.1	6,094	10,969	......	811
			2	......	42.77	52.72	4.51	4.62	4.60	72.10	1.12	13.05	......	6,980	12,564		
			3	......	44.79	55.21	......	4.84	4.82	75.50	1.17	13.67	......	7,309	13,156		
Orderville, 2 miles south of; NW. ¼ sec. 16, T. 41 S., R. 7 W., Kroft mine, 9-foot 6½-inch bed.	5314	B	1	16.59	32.59	37.38	13.44	3.41	5.39	46.66	.85	30.25	3.9	4,379	7,882	341	811
			2	......	39.07	44.82	16.11	4.09	4.26	55.94	1.02	18.58	......	5,250	9,450		
			3	......	46.57	53.43	......	4.88	5.08	66.68	1.22	22.14	......	6,258	11,264		

SANPETE COUNTY.																	
Sterling, 2 miles east of; sec. 35, T. 18 S., R. 2 E., Morrison mine, Sterling bed, 2¾-foot cut.	2141	B	1	8.07	42.59	43.20	6.14	.92	......	......	......	......	1.8	6,537	11,767	285	812
			2	......	46.33	46.99	6.68	1.00	......	......	......	......	......	7,111	12,800		
			3	......	49.65	50.35	......	1.07	......	......	......	......	......	7,619	13,714		
Wales, 2 miles west of; sec. 26, T. 15 S., R. 2 E., in New Canyon, Wales mine, Wales bed, 3-foot cut.	2143	B	1	2.17	33.50	50.94	13.39	4.62	......	......	......	......	.8	......	......	285	812
			2	......	34.24	52.07	13.69	4.72	......	......	......	......	......	......	......		
			3	......	39.67	60.33	......	5.47	......	......	......	......	......	......	......		
SUMMIT COUNTY.																	
Coalville, 3 miles northeast of; sec. 3, T. 2 N., R. 5 E., Wasatch mine, Wasatch bed (100 feet from entrance, 9-foot cut).	2408	B	1	13.92	37.96	43.67	4.45	1.03	......	......	......	......	6.9	6,079	10,942	285	812
			2	......	44.10	50.73	5.17	1.20	......	......	......	......	......	7,062	12,712		
			3	......	46.50	53.50	......	1.27	......	......	......	......	......	7,447	13,405		
Same (5,000 feet east of slope on 500-foot level, 10½-foot cut).	3200	A	1	14.07	37.21	42.46	6.26	1.28	......	......	......	......	5.7	5,817	10,471	332	812
			2	......	43.30	49.42	7.28	1.49	......	......	......	......	......	6,769	12,184		
			3	......	46.70	53.30	......	1.61	......	......	......	......	......	7,301	13,142		
Same (4,500 feet east of slope, on 400-foot level, 127-inch cut).	3201	A	1	13.86	39.69	41.19	5.26	1.32	......	......	......	......	5.2	......	......	332	812
			2	......	46.08	47.81	6.11	1.53	......	......	......	......	......	......	......		
			3	......	49.08	50.92	......	1.63	......	......	......	......	......	......	......		
Same (slack through 1¼-inch screen)...........	3259	C	1	12.66	38.30	43.19	5.85	1.39	......	......	......	......	2.3	......	......	332	......
			2	......	43.85	49.45	6.70	1.59	......	......	......	......	......	......	......		
			3	......	47.00	53.00	......	1.70	......	......	......	......	......	......	......		
Same (1,200 feet southwest of slope, 9¾-foot cut).	8065	A	1	14.9	34.0	46.5	4.6	1.1	......	......	......	......	5.7	5,980	10,770	......	812
			2	......	40.0	54.6	5.4	1.3	......	......	......	......	......	7,030	12,650		
			3	......	42.5	57.5	......	1.35	......	......	......	......	......	7,430	13,370		
Same (1,800 feet north of slope, 10¼-foot cut)...	8064	A	1	14.2	36.0	44.8	5.0	1.41	5.79	61.40	1.09	25.31	4.8	5,905	10,630	......	812
			2	......	42.0	52.1	5.9	1.64	4.91	71.58	1.27	14.70	......	6,884	12,390		
			3	......	44.6	55.4	......	1.74	5.21	76.03	1.35	15.67	......	7,310	13,160		
UINTA COUNTY.																	
Vernal, 3 miles north of; NE. ¼ NW. ¼ sec. 2, T. 4 S., R. 21 E., Gibson mine, 86½-inch bed, 120 feet in mine (lower 14 inches of 22-inch top bench).	5515	B	1	9.43	32.77	44.94	12.86	1.93	5.12	57.81	.90	21.38	3.0	5,759	10,366	341	813
			2	......	36.18	49.62	14.20	2.13	4.49	63.83	.99	14.36	......	6,359	11,446	415	
			3	......	42.17	57.83	......	2.48	5.23	74.39	1.15	16.75	......	7,411	13,340		
Same (middle bench, 42½-inch cut)............	5517	B	1	11.66	34.40	44.50	9.44	1.92	5.64	59.16	.92	22.92	4.4	5,875	10,575	341	813
			2	......	38.94	50.37	10.69	2.17	4.91	66.97	1.04	14.22	......	6,650	11,970	415	
			3	......	43.60	56.40	......	2.43	5.50	74.99	1.16	15.92	......	7,446	13,403		
Same (lower bench, 21-inch cut)...............	5518	B	1	10.22	32.68	44.85	12.25	.77	5.31	60.04	.96	20.67	3.3	5,936	10,685	341	813
			2	......	36.40	49.96	13.64	.86	4.64	66.87	1.07	12.92	......	6,612	11,902	415	
			3	......	42.15	57.85	......	1.00	5.37	77.43	1.24	14.96	......	7,656	13,781		
5 miles northwest of; lots 1 and 2, NW. ¼ sec. 11, T. 4 S., R. 20 E., C. C. Rich mine, 59-inch bed (2 lower benches, 13-inch cut).	5513	B	1	8.21	34.30	45.70	11.79	1.76	5.39	61.03	.98	19.05	2.5	6,152	11,074	341	814
			2	......	37.37	49.80	12.83	1.92	4.88	66.49	1.06	12.82	......	6,703	12,065	415	
			3	......	42.87	57.13	......	2.20	5.60	76.28	1.22	14.70	......	7,690	13,842		
Same (2 upper benches, 27½-inch cut)..........	5510	B	1	8.82	36.60	48.33	6.25	1.66	5.72	65.11	1.09	20.17	2.9	6,571	11,828	341	814
			2	......	40.14	53.00	6.86	1.82	5.20	71.41	1.19	13.52	......	7,207	12,973	415	
			3	......	43.10	56.90	......	1.95	5.58	76.67	1.28	14.52	......	7,733	13,919		
7 miles northwest of; NW. ¼ SW. ¼ sec. 2, T. 4 S., R. 20 E., J. Rich mine, 72-inch bed (2 lower benches, 17½-inch cut).	5512	B	1	8.64	36.09	47.21	8.06	1.39	5.57	64.10	1.04	19.84	2.8	6,434	11,581	341	814
			2	......	39.50	51.68	8.82	1.52	5.05	70.16	1.14	13.31	......	7,042	12,676		
			3	......	43.32	56.68	......	1.67	5.54	76.94	1.25	14.60	......	7,723	13,901		
Same (2 upper benches, 36½-inch cut)..........	5509	B	1	8.65	36.16	48.19	7.00	1.63	5.51	65.10	1.09	19.67	2.6	6,466	11,639	341	814
			2	......	39.58	52.75	7.67	1.78	4.98	71.26	1.19	13.12	......	7,078	12,740		
			3	......	42.87	57.13	......	1.93	5.39	77.18	1.29	14.21	......	7,666	13,799		

[a] Sample taken in 1906 by W. T. Lee.

[b] Sample taken in 1907 by G. B. Richardson.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
UTAH—Continued.																	
UINTA COUNTY—continued.																	
Vernal—Continued.																	
5½ miles northwest of; lot 10, SW. ¼ sec. 2, T. 4 S., R. 20 E., Timothy mine, 68½-inch bed (2 lower benches, 17½-inch cut).	5754	B	1	8.23	35.69	45.77	10.31	1.26	5.50	63.52	1.00	18.41	2.3	6,346	11,422	341	815
			2	......	38.89	49.88	11.23	1.37	5.00	69.22	1.09	12.09	......	6,915	12,447	415	
			3	......	43.81	56.19	......	1.54	5.63	77.98	1.23	13.62	......	7,790	14,022		
Same (2 upper benches, 33½-inch cut)	5755	B	1	8.64	36.74	46.67	7.95	2.09	5.75	65.68	1.01	17.52	2.5	6,538	11,768	341	815
			2	......	40.21	51.09	8.70	2.29	5.24	71.89	1.11	10.77	......	7,156	12,881	415	
			3	......	44.04	55.96	......	2.51	5.74	78.74	1.22	11.79	......	7,838	14,108		
6 miles northwest of; NE. ¼ SE. ¼ sec. 3, T. 4 S., R. 20 E., Gray mine, 67-inch bed (46½-inch cut).	5511	B	1	8.46	34.32	47.17	10.05	1.58	5.33	62.79	1.00	19.25	2.9	6,250	11,250	341	815
			2	......	37.49	51.53	10.98	1.73	4.80	68.59	1.09	12.81	......	6,828	12,290	415	
			3	......	42.11	57.89	......	1.94	5.39	77.05	1.22	14.40	......	7,670	13,806		
Same (3½-foot cut)	5753	B	1	8.64	36.42	47.62	7.32	1.25	5.57	65.55	1.09	19.22	2.6	6,600	11,880	341	815
			2	......	39.86	52.13	8.01	1.37	5.05	71.75	1.19	12.63	......	7,224	13,003	415	
			3	......	43.33	56.67	......	1.49	5.49	78.00	1.29	13.73	......	7,853	14,135		
VIRGINIA.																	
DICKENSON COUNTY.																	
Clintwood, Chase & Damron mine, Clintwood, 6½-foot bed, 150 feet from entry, 4½-foot cut.	3827	B	1	2.21	30.13	63.68	3.98	.87	......	......	......	......	1.2	......	......	348	816
			2	......	30.81	65.12	4.07	.89	......	......	......	......	......	......	......		
			3	......	32.12	67.88	......	.93	......	......	......	......	......	......	......		
LEE COUNTY.																	
Crab Orchard, Morris prospect (29 feet from outcrop, entire bed of left rib of drift, 85½-inch cut). Wilson bed.	2246	A	1	4.72	34.21	56.44	4.63	2.55	......	......	......	......	2.6	......	......	290	816
			2	......	35.90	59.24	4.86	2.68	......	......	......	......	......	......	......	336	
			3	......	37.73	62.27	......	2.82	......	......	......	......	......	......	......	18	
Same (lower bench at face of drift, 17½-inch cut).	2268	A	1	5.69	34.43	51.77	8.11	2.31	......	......	......	......	4.2	7,287	13,117	290	816
			2	......	36.51	54.89	8.60	2.45	......	......	......	......	......	7,727	13,909	28	
			3	......	39.94	60.06	......	2.68	......	......	......	......	......	8,454	15,217		
Same (upper bench at face of drift, 57¾-inch cut).	2269	A	1	6.55	33.51	55.54	4.40	.80	......	......	......	......	4.4	......	......	290	816
			2	......	35.86	59.43	4.71	.86	......	......	......	......	......	......	......		
			3	......	37.63	62.37	......	.90	......	......	......	......	......	......	......		
Same (run of mine)	2420	C	1	4.06	34.93	56.28	4.73	1.20	5.32	76.59	1.24	10.92	2.4	7,681	13,826	290	......
			2	......	36.41	58.66	4.93	1.25	5.08	79.83	1.29	7.62	......	8,006	14,411		
			3	......	38.30	61.70	......	1.32	5.34	83.97	1.36	8.01	......	8,420	15,156		
			4	......	......	......	......	......	5.41	85.09	1.38	8.12	......	8,503	15,305		

Near; "big opening" on Wilson farm, 75 feet from outcrop (lower bench, 12-inch cut). McConnell bed.	2249	A	1	6.80	33.01	58.26	1.93	.68	......	......	......	......	5.0	......	......	290	817
			2	......	35.42	62.51	2.07	.73	......	......	......	......	......	......	......	336	
			3	......	36.17	63.83	......	.75	......	......	......	......	......	......	......	18	
Same (upper bench, 61½-inch cut)	2248	A	1	3.90	34.08	56.96	5.06	.90	......	......	......	......	1.9	7,707	13,873	290	817
			2	......	35.46	59.27	5.27	.94	......	......	......	......	......	8,020	14,436	28	
			3	......	37.43	62.57	......	.99	......	......	......	......	......	8,466	15,239		
Same (run of mine)	2476	C	1	3.35	35.13	55.94	5.58	.92	5.19	77.02	1.42	9.87	1.9	7,740	13,932	290	......
			2	......	36.35	57.88	5.77	.95	4.99	79.69	1.47	7.13	......	8,008	14,414		
			3	......	38.58	61.42	......	1.01	5.29	84.58	1.56	7.56	......	8,499	15,299		
			4	......	......	......	......	......	5.35	85.44	1.58	7.63	......	8,562	15,412		
Darby, Darby mine (901 feet from drift mouth, room 1 off third butt entry, 41½-inch bed, 32½-inch cut). Darby bed.	2324	A	1	3.55	37.06	56.88	2.51	.50	......	......	......	......	1.5	......	......	290	818
			2	......	38.42	58.98	2.60	.52	......	......	......	......	......	......	......	336	
			3	......	39.45	60.55	......	.53	......	......	......	......	......	......	......	18	
Same (1,423 feet from drift mouth, room 18 off first butt entry, 42½-inch bed, 37½-inch cut).	2323	A	1	3.89	34.89	58.16	3.06	.34	......	......	......	......	1.9	7,858	14,144	290	818
			2	......	36.30	60.52	3.18	.35	......	......	......	......	......	8,176	14,717	28	
			3	......	37.49	62.51	......	.36	......	......	......	......	......	8,445	15,201		
Same (lump, over 1½-inch bar screen)	2358	C	1	4.35	36.89	54.43	4.33	.79	5.25	76.99	1.32	11.32	2.0	7,744	13,939	290	......
			2	......	38.57	56.90	4.53	.83	4.99	80.49	1.38	7.78	......	8,096	14,573		
			3	......	40.40	59.60	......	.87	5.22	84.31	1.45	8.15	......	8,480	15,264		
			4	......	......	......	......	......	5.26	85.07	1.46	8.21	......	8,534	15,361		
Darbyville, Black Mountain mine on Baley Trace, 100 feet from entrance, No. 5 (Darby) bed, 3½-foot cut.	6236	B	1	3.42	34.36	58.83	3.39	.58	5.25	77.98	1.29	11.51	1.4	7,852	14,134	341	819
			2	......	35.58	60.91	3.51	.60	5.04	80.74	1.34	8.77	......	8,130	14,634		
			3	......	36.88	63.12	......	.62	5.22	83.68	1.39	9.09	......	8,426	15,167		
Gin Creek opening, No. 9 bed, 56½-inch cut	6238	B	1	4.44	35.99	53.59	5.98	.76	5.19	71.95	1.25	14.87	2.1	7,424	13,363	341	819
			2	......	37.66	56.08	6.26	.80	4.92	75.29	1.31	11.42	......	7,769	13,984		
			3	......	40.18	59.82	......	.85	5.25	80.32	1.40	12.18	......	8,288	14,918		
Left Fork Gin Creek prospect (No. 10 bed, 69-inch cut).	6237	B	1	5.31	32.66	53.23	8.80	.75	5.13	70.39	1.36	13.57	3.1	7,099	12,778	341	819
			2	......	34.49	56.22	9.29	.79	4.79	74.34	1.44	9.35	......	7,497	13,495		
			3	......	38.02	61.98	......	.87	5.28	81.95	1.59	10.31	......	8,265	14,877		
Same (No. 12 bed, 4½-foot cut)	6239	B	1	5.49	36.03	51.87	6.61	1.24	5.19	71.47	1.12	14.37	3.1	7,283	13,109	341	820
			2	......	38.12	54.89	6.99	1.31	4.85	75.62	1.19	10.04	......	7,706	13,871		
			3	......	40.99	59.01	......	1.41	5.21	81.31	1.28	10.79	......	8,285	14,913		
MONTGOMERY COUNTY.																	
Blacksburg, 10 miles west of; Poverty mine, "Big Seam" bed (750 feet south of opening, 69½-inch cut).	4092	A	1	3.51	11.06	67.79	17.64	.84	......	......	......	......	3.1	......	......	332	820
			2	......	11.46	70.26	18.28	.87	......	......	......	......	......	......	......	18	
			3	......	14.02	85.98	......	1.06	......	......	......	......	......	......	......	28	
Same (765 feet south of opening, 59½-inch cut)	4093	A	1	2.98	10.94	64.14	21.94	.68	......	......	......	......	2.4	6,483	11,669	332	820
			2	......	11.28	66.11	22.61	.70	......	......	......	......	......	6,682	12,028	18	
			3	......	14.58	85.42	......	.90	......	......	......	......	......	8,635	15,543	28	
Same (pea coal)	4287	C	1	4.80	10.12	67.05	18.03	.63	3.91	69.27	.66	7.50	4.1	6,645	11,961	332	......
			2	......	10.63	70.43	18.94	.66	3.55	72.76	.69	3.40	......	6,980	12,564		
			3	......	13.11	86.69	......	.82	4.38	89.76	.86	4.18	......	8,611	15,500		
			4	......	......	......	......	......	4.42	90.50	.86	4.22	......	8,663	15,593		
Same (slack, 10 tons)	4294	C	1	7.52	10.29	65.96	16.23	.65	4.37	69.05	.69	9.01	7.1	6,607	11,893	332	......
			2	......	11.13	71.32	17.55	.70	3.82	74.66	.75	2.52	......	7,144	12,859		
			3	......	13.50	86.50	......	.85	4.64	90.56	.90	3.05	......	8,665	15,597		
			4	......	......	......	......	......	4.67	91.34	.91	3.08	......	8,720	15,696		
Merrimac, "Big Vein" mine, semianthracite culm	5938	C	1	2.05	6.58	58.22	33.15	.46	2.61	57.97	.64	5.17	1.6	5,382	9,688	......	......
			2	......	6.72	59.44	33.84	.47	2.43	59.18	.65	3.43	......	5,495	9,891		
			3	......	10.16	89.84	......	.71	3.67	89.45	.98	5.19	......	8,306	14,950		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
VIRGINIA—Continued.																	
RUSSELL COUNTY.																	
Dante, Lower Banner No. 2 mine, room 4 off left entry, Lower Banner bed, 3¼-foot cut.	4057	B	1	2.79	32.11	59.30	5.80	0.84	....	....	....	....	1.8	....	....	316	821
			2	....	33.03	61.00	5.97	.86	....	....	....	....	....	....	....	348	
			3	....	35.12	64.88	....	.92	....	....	....	....	....	....	....		
Kennedy No. 4 mine, second cross heading 900 feet from entrance, Widow Kennedy bed, 3¾-foot cut.	3947	B	1	1.90	31.54	60.87	5.69	1.47	....	....	....	....	.8	6,569	11,824	316	822
			2	....	32.15	62.05	5.80	1.50	....	....	....	....	....	6,696	12,053	348	
			3	....	34.13	65.87	....	1.59	....	....	....	....	....	7,109	12,796		
1 mile south of; Upper Banner No. 3 mine, sixth butt entry off main tunnel, Upper Banner bed, 61½-inch cut.	3942	B	1	2.36	32.40	57.92	7.32	.66	....	....	....	....	1.3	....	....	316	822
			2	....	33.18	59.32	7.50	.68	....	....	....	....	....	....	....	348	
			3	....	35.87	64.13	....	.74	....	....	....	....	....	....	....		
½ mile east of; Clinchfield mine, Lower Banner bed, main entry 150 feet from mouth (28-inch cut).	10385	B	1	2.12	33.75	57.68	6.45	.65	5.44	78.59	1.53	7.34	1.1	7,853	14,135	....	822
			2	....	34.48	58.93	6.59	.66	5.31	80.30	1.56	5.58	....	8,023	14,442		
			3	....	36.91	63.09	....	.71	5.68	85.96	1.67	5.98	....	8,589	15,460		
1 mile east of; mine No. 3, Upper Banner bed (fourth right entry, 1,000 feet from mouth, 62½-inch bed).	10387	B	1	2.28	35.69	55.03	7.00	.66	5.48	77.91	1.53	7.42	1.4	7,742	13,936	....	823
			2	....	36.52	56.32	7.16	.68	5.35	79.73	1.56	5.52	....	7,922	14,260		
			3	....	39.33	60.67	....	.73	5.76	85.87	1.68	5.96	....	8,532	15,358		
SCOTT COUNTY.																	
Adamar, 1 mile north of; about 50 feet from entrance, 52-inch cut.	10359	B	1	2.44	33.78	34.90	28.88	.99	4.87	57.12	1.08	7.06	1.6	5,828	10,490	431	823
			2	....	34.62	35.77	29.61	1.01	4.71	58.55	1.11	5.01	....	5,974	10,753		
			3	....	49.18	50.82	....	1.43	6.69	83.18	1.58	7.12	....	8,487	15,277		
Ka, 5 miles from; Milner prospect, Milner bed, about 500 feet from entrance, 64½-inch cut.	10358	B	1	3.21	33.03	58.06	5.70	1.64	5.32	76.89	1.60	8.85	1.5	7,636	13,745	431	823
			2	....	34.13	59.98	5.89	1.69	5.12	79.44	1.66	6.20	....	7,890	14,202		
			3	....	36.27	63.73	....	1.80	5.44	84.41	1.76	6.59	....	8,384	15,091		
1½ miles from; Hagan prospect, Duncan bed, main entry about 125 feet from entrance, 30-inch cut.	10361	B	1	3 14	33.31	57.11	6.44	.85	5.40	76.24	1.48	9.59	1.6	7,580	13,644	431	824
			2	....	34.39	58.96	6.65	.88	5.21	78.71	1.53	7.02	....	7,826	14,086		
			3	....	36.84	63.16	....	.94	5.58	84.31	1.64	7.53	....	8,383	15,089		
TAZEWELL COUNTY.																	
Boissevain, Boissevain mine, Pocahontas No. 3 bed (main entry, 3,000 feet from shaft, 75¾-inch cut).	8633	A	1	4.2	17.5	74.5	3.8	.55	....	....	....	....	3.8	....	....	....	824
			2	....	18.5	77.5	4.0	.60	....	....	....	....	....	....	....		
			3	....	19.0	81.0	....	.60	....	....	....	....	....	....	....		

Same (east entry 1, 2,000 feet from shaft, 107½-inch cut).	8634	A	1	4.3	17.0	72.7	6.0	.80	......	......	......	......	3.7	......	......	......	824
			2	......	17.5	76.2	6.3	.85	......	......	......	......	......	......	......		
			3	......	19.0	81.0	......	.90	......	......	......	......	......	......	......		
Same (room 8, west entry 3, 1,500 feet from shaft, 99½-inch cut).	8737	A	1	4.2	16.5	75.3	4.0	.65	......	......	......	......	3.5	......	......	......	824
			2	......	17.5	78.3	4.2	.65	......	......	......	......	......	......	......		
			3	......	18.0	82.0	......	.70	......	......	......	......	......	......	......		
Same (east entry 3, 1,600 feet from shaft, 95-inch cut).	8736	A	1	3.6	17.5	74.9	4.0	.65	......	......	......	......	2.9	......	......	......	824
			2	......	18.0	77.9	4.1	.65	......	......	......	......	......	......	......		
			3	......	19.0	81.0	......	.70	......	......	......	......	......	......	......		
Same (west entry 1, 1,200 feet from shaft, 113-inch cut).	8732	A	1	4.4	17.0	75.1	3.5	.60	......	......	......	......	3.7	......	......	......	824
			2	......	18.0	78.4	3.6	.60	......	......	......	......	......	......	......		
			3	......	18.5	81.5	......	.65	......	......	......	......	......	......	......		
Same (composite of Nos. 8632–8634, 8736, and 8738).	8845	......	1	4.0	17.5	74.2	4.31	.62	4.76	82.56	1.03	6.72	3.5	8,065	14,520	......	825
			2	......	18.0	77.5	4.49	.65	4.49	86.04	1.07	3.26	......	8,405	15,130		
			3	......	19.0	81.0	......	.68	4.70	90.08	1.12	3.42	......	8,800	15,840		
Pocahontas, Baby Pocahontas mine, Pocahontas No. 3 bed (6,700 feet southwest of drift mouth, 113¾-inch cut).	5269	B	1	4.50	17.52	74.43	3.55	.80	......	......	......	......	3.5	8,142	14,656	362	825
			2	......	18.35	77.93	3.72	.84	......	......	......	......	......	8,526	15,347	385	
			3	......	19.06	80.94	......	.87	......	......	......	......	......	8,855	15,939		
Same (6,000 feet southwest of drift mouth, 107⅞-inch cut).	5268	B	1	2.92	17.55	76.41	3.12	.61					2.0	8,301	14,942	362	825
			2	......	18.08	78.71	3.21	.63	......	......	......	......	......	8,551	15,392	385	
			3	......	18.68	81.32	......	.65	......	......	......	......	......	8,835	15,903		
Same (run of mine, 4 cars)......................	5456	C	1	1.63	17.17	75.34	5.86	.75	4.58	83.14	1.02	4.65	1.1	8,151	14,672	362	......
			2	......	17.45	76.59	5.96	.76	4.47	84.52	1.04	3.25	......	8,286	14,915		
			3	......	18.56	81.44	......	.81	4.75	89.88	1.11	3.45	......	8,811	15,860		
Same (7,100 feet west of drift, cross 1, off diagonal entry on break-through from airway to entry, opposite room 27, 103¾-inch cut).	7173	A	1	3.65	17.27	76.27	2.81	.43	4.95	84.65	1.21	5.95	3.2	8,263	14,873	......	825
			2	......	17.93	79.15	2.92	.45	4.71	87.86	1.26	2.80	......	8,576	15,437		
			3	......	18.47	81.53	......	.46	4.85	90.50	1.30	2.89	......	8,834	15,901		
Same (7,300 feet west of drift, 2,700 feet south, diagonal entry, 7-foot 10½-inch cut).	7172	A	1	5.89	17.26	72.61	4.24	.79	4.98	80.63	1.13	8.23	5.4	7,920	14,256	......	825
			2	......	18.34	77.15	4.51	.84	4.60	85.68	1.20	3.17	......	8,416	15,149		
			3	......	19.21	80.79	......	.88	4.82	89.72	1.26	3.32	......	8,813	15,863		
Same (cross heading 1, 8,400 feet from drift mouth, 98½-inch cut).	8642	A	1	4.2	15.5	78.0	2.3	.60	......	......	......	......	3.4	......	......	......	825
			2	......	16.5	81.1	2.4	.65	......	......	......	......	......	......	......		
			3	......	17.0	83.0	......	.65	......	......	......	......	......	......	......		
Same (main diagonal air course, 8,400 feet from drift mouth, 96½-inch cut).	8641	A	1	3.7	16.5	76.5	3.3	.75	......	......	......	......	2.9	......	......	......	825
			2	......	17.5	79.0	3.5	.80	......	......	......	......	......	......	......		
			3	......	18.0	82.0	......	.80	......	......	......	......	......	......	......		
Same (pillar, cross entry 8, 5,600 feet from drift mouth, 94-inch cut).	8640	A	1	5.6	15.5	74.5	4.4	.65	......	......	......	......	4.8	7,965	14,340	......	825
			2	......	16.0	79.3	4.7	.70	......	......	......	......	......	8,435	15,190		
			3	......	17.0	83.0	......	.70	......	......	......	......	......	8,850	15,930		
Same (composite of Nos. 8641 and 8642)........	8750	......	1	3.8	15.5	77.8	2.92	.63	4.92	84.70	1.16	5.67	3.2	8,255	14,860	......	825
			2	......	16.0	81.0	3.03	.65	4.68	88.02	1.21	2.41	......	8,575	15,440		
			3	......	16.5	83.5	......	.67	4.83	90.77	1.25	2.48	......	8,845	15,920		
East Pocahontas mine, Pocahontas No. 3 bed, pillar, main entry, 2,500 feet from drift mouth, 77½-inch cut.	8635	A	1	3.5	15.5	76.8	4.20	.73	4.77	83.36	1.08	5.86	3.0	8,125	14,630	......	825
			2	......	16.5	79.1	4.35	.76	4.54	86.40	1.12	2.83	......	8,420	15,160		
			3	......	17.0	83.0	......	.79	4.75	90.33	1.17	2.96	......	8,805	15,850		
½ mile west of; West Pocahontas mine, Pocahontas No. 3 bed (right entry 8, off Norton air course, 2½ miles southwest of drift mouth, 93¾-inch cut).	8636	A	1	3.6	15.5	77.6	3.3	.60	......	......	......	......	3.0	......	......	......	827
			2	......	16.0	80.6	3.4	.65	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	.65	......	......	......	......	......	......	......		
Same (pillar, room 14, Kingston entry, 10,500 feet from drift mouth, 101¾-inch cut).	8637	A	1	3.9	15.5	76.5	4.1	.60	......	......	......	......	2.8	8,135	14,640	......	827
			2	......	16.0	79.8	4.2	.60	......	......	......	......	......	8,465	15,240		
			3	......	17.0	83.0	......	.65	......	......	......	......	......	8,840	15,920		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
VIRGINIA—Continued.																	
TAZEWELL COUNTY—continued.																	
Pocahontas, West Pocahontas mine—Continued.																	
Same (right air course 6 off Newport News entry, 2 miles from drift mouth, 7¾-foot cut).	8613	A	1	3.7	17.0	76.2	3.1	0.60	......	......	......	......	3.2	......	......	......	827
			2	......	17.5	79.3	3.2	.60	......	......	......	......	......	......	......		
			3	......	18.0	82.0	......	.65	......	......	......	......	......	......	......		
Same (entry 3 off Newport News entry, 2 miles from drift mouth, 94½-inch cut).	8614	A	1	4.9	16.0	76.1	3.0	.60	......	......	......	......	4.3	......	......	......	827
			2	......	17.0	79.9	3.1	.65	......	......	......	......	......	......	......		
			3	......	17.5	82.5	......	.65	......	......	......	......	......	......	......		
Same (pillar in haulway off Salem entry, 71½-inch cut).	8615	A	1	5.3	16.0	74.7	4.0	.60	......	......	......	......	4.7	7,960	14,330	......	827
			2	......	16.5	79.3	4.2	.60	......	......	......	......	......	8,400	15,120		
			3	......	17.5	82.5	......	.65	......	......	......	......	......	8,765	15,780		
Same (pillar, Jed entry, 11,000 feet from drift mouth, 100½-inch cut).	8638	A	1	3.4	15.0	78.8	2.8	.65	......	......	......	......	2.9	......	......	......	827
			2	......	15.5	81.6	2.9	.65	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.70	......	......	......	......	......	......	......		
Same (pillar, left 2nd St. Paul entry, 900 feet from drift mouth, 101½-inch cut).	8639	A	1	3.4	15.5	77.3	3.8	.70	......	......	......	......	2.9	......	......	......	827
			2	......	16.0	80.1	3.9	.70	......	......	......	......	......	......	......		
			3	......	17.0	83.0	......	.75	......	......	......	......	......	......	......		
Same (composite of Nos. 8613, 8614, and 8636)	8745	......	1	4.1	16.5	75.2	3.18	.63	4.97	84.29	1.21	5.72	3.5	8,190	14,740	......	827
			2	......	17.0	79.7	3.32	.66	4.70	87.91	1.26	2.15	......	8,545	15,380		
			3	......	17.5	82.5	......	.68	4.86	90.93	1.30	2.23	......	8,835	15,910		
Same (composite of Nos. 8638 and 8639)	8749	......	1	3.5	15.0	78.1	3.43	.68	4.77	84.40	1.20	5.52	2.9	8,205	14,770	......	827
			2	......	15.5	80.9	3.56	.70	4.54	87.48	1.24	2.48	......	8,505	15,310		
			3	......	16.0	84.0	......	.73	4.71	90.71	1.29	2.56	......	8,820	15,880		
Richlands, 5 miles northwest of; Richlands mine, No. 4 bed (2,000 feet southeast of opening, 56¾-inch cut).	4304	A	1	3.03	25.82	66.53	4.62	1.70	......	......	......	......	2.4	......	......	332	828
			2	......	26.63	68.61	4.76	1.75	......	......	......	......	......	......	......	18	
			3	......	27.96	72.04	......	1.84	......	......	......	......	......	......	......	23	
Same (1,600 feet east of opening, 49-inch cut)	4305	A	1	2.60	24.47	68.45	4.48	1.35	......	......	......	......	1.9	8,131	14,636	332	828
			2	......	25.12	70.28	4.60	1.39	......	......	......	......	......	8,348	15,026	18	
			3	......	26.33	73.67	......	1.46	......	......	......	......	......	8,751	15,752	23	
Same (run of mine)	4573	C	1	5.62	23.07	61.52	9.79	1.21	4.78	73.35	1.26	9.61	5.0	7,369	13,264	332	......
			2	......	24.44	65.18	10.38	1.28	4.41	77.71	1.34	4.88	......	7,808	14,053		
			3	......	27.27	72.73	......	1.43	4.92	86.71	1.49	5.45	......	8,712	15,682		
			4	......	......	......	......	......	4.99	87.97	1.52	5.52	......	8,806	15,851		

WISE COUNTY.

Georgel, Swansea mine, Upper Banner bed, room 21 off seventeenth entry west, 2,600 feet from outcrop, 97½-inch bed; 79-inch cut.	10386	B	1	2.48	31.71	60.30	5.51	.52	5.59	79.69	1.56	7.13	1.5	7,918	14,252	......	829
			2	......	32.52	61.83	5.65	.53	5.44	81.71	1.60	5.07	......	8,119	14,614		
			3	......	34.47	65.53	......	.56	5.76	86.60	1.70	5.38	......	8,605	15,489		
Norton, ½ mile east of; No. 4 mine	10390	B	1	3.31	32.82	60.11	3.76	.90	5.55	80.01	1.58	8.20	1.9	7,894	14,209	......	830
			2	......	33.94	62.17	3.89	.93	5.36	82.75	1.63	5.44	......	8,164	14,695		
			3	......	35.31	64.69	......	.97	5.58	86.10	1.70	5.65	......	8,495	15,291		
Stonega, Stonega mine, Imboden bed, No. 11 heading off fifth left face, 60-inch cut.	10388	B	1	2.16	33.10	58.27	6.47	.68	5.29	77.85	1.47	8.24	.8	7,774	13,994	......	830
			2	......	33.83	59.56	6.61	.70	5.16	79.57	1.50	6.46	......	7,946	14,303		
			3	......	36.23	63.77	......	.75	5.53	85.20	1.61	6.91	......	8,509	15,316		
Toms Creek (Herald post office), Coburn mine (3,000 feet northeast of drift mouth, east heading 17, Upper Banner bed, 76½-inch cut).	2281	A	1	2.70	32.45	60.36	4.49	.52	......	......	......	......	1.6	8,079	14,542	290	830
			2	......	33.35	62.04	4.61	.53	......	......	......	......	......	8,303	14,945	336	
			3	......	34.96	65.04	......	.56	......	......	......	......	......	8,705	15,669	18	
Same (2,000 feet northeast of drift mouth, room 3, west heading 11, 79½-inch cut).	2282	A	1	2.91	31.99	60.97	4.13	.55	......	......	......	......	1.7	......	......	290	830
			2	......	32.95	62.80	4.25	.57	......	......	......	......	......	......	......	28	
			3	......	34.41	65.59	......	.60	......	......	......	......	......	......	......		
Same (lump, over 3½-inch bar screen)	2382	C	1	3.05	31.65	60.82	4.48	.67	5.17	80.35	1.59	7.74	2.2	8,039	14,470	290	......
			2	......	32.65	62.73	4.62	.69	4.98	82.88	1.64	5.19	......	8,292	14,926		
			3	......	34.23	65.77	......	.72	5.22	86.89	1.72	5.45	......	8,693	15,647		
			4	......	......	......	......	......	5.26	87.53	1.73	5.48	......	8,741	15,734		
Virginia City, Virginia City No. 1 mine "Jaw Bone" bed (2,400 feet northwest of opening, 97½-inch cut).	5217	B	1	3.37	28.58	53.09	14.96	1.18	......	......	......	......	2.2	6,916	12,449	362	831
			2	......	29.58	54.94	15.48	1.22	......	......	......	......	......	7,157	12,883		
			3	......	35.00	65.00	......	1.44	......	......	......	......	......	8,468	15,242		
Same (3,200 feet northwest of opening, 80½-inch cut).	5235	B	1	3.05	27.84	54.17	14.94	1.24	......	......	......	......	1.8	6,896	12,413	362	831
			2	......	28.71	55.88	15.41	1.28	......	......	......	......	......	7,113	12,803		
			3	......	33.94	66.06	......	1.51	......	......	......	......	......	8,409	15,135		

WASHINGTON.

CLALLAM COUNTY.

Clallam, 4 miles east of; on seashore, Fuca mine, 100 feet up slope, 400 feet from mouth of gangway, 23-inch cut.	10030	B	1	11.24	39.99	36.20	12.57	5.10	5.97	56.70	.90	18.76	3.4	5,826	10,487	474	832
			2	......	45.05	40.79	14.16	5.75	5.33	63.88	1.01	9.87	......	6,564	11,815	260	
			3	......	52.48	47.52	......	6.70	6.21	74.42	1.18	11.49	......	17,64	73,765		

KING COUNTY.

Barneston, SE. ¼ NW. ¼ sec. 12, T. 22 N., R. 7 E., prospect entry, 10 feet in, 56½-inch bed, 50½-inch cut.	9111	B	1	14.1	5.5	51.6	28.8	.45	......	......	......	......	12.6	4,450	8,015	474	832
			2	......	6.5	60.0	33.5	.50	......	......	......	......	......	5,180	9,325		
			3	......	9.5	90.5	......	.75	......	......	......	......	......	7,790	14,030		
Bayne, NW. ¼ NW. ¼ sec. 22, T. 21 N., R. 7 E., Bayne mine 55 feet above gangway, No. 5 bed, (57½-inch cut).	9109	B	1	5.06	33.82	42.69	18.43	.63	5.10	60.12	1.47	14.25	3.6	6,146	11,063	474	833
			2	......	35.62	44.97	19.41	.66	4.78	63.82	1.55	10.28	......	6,474	11,653		
			3	......	44.20	55.80	......	.82	5.93	78.57	1.92	12.76	......	8,033	14,459		
Same (No. 3 bed, 47-inch cut, face of south gangway).	9110	B	1	4.94	33.01	40.97	21.08	.54	5.13	59.35	1.24	12.66	3.5	5,963	10,733	474	833
			2	......	34.73	43.09	22.18	.57	4.83	62.44	1.30	8.68	......	6,273	11,291		
			3	......	44.62	55.38	......	.73	6.21	80.23	1.67	11.16	......	8,060	14,508		
Same (No. 1 bed, north side main rock tunnel, 70-inch cut).	9112	B	1	8.67	30.15	42.15	19.03	.48	5.18	57.31	1.12	16.88	7.6	5,769	10,384	474	833
			2	......	33.01	46.15	20.84	.53	4.62	62.75	1.23	10.03	......	6,316	11,369		
			3	......	41.70	58.30	......	.67	5.83	79.28	1.55	12.67	......	7,979	14,362		
NE. ¼ NW. ¼ sec. 22, T. 21 N., R. 7 E., drift lower 2 feet of No. 5 bed (9 feet from entrance).	9268	B	1	7.30	33.32	41.79	17.59	.56	5.20	59.42	1.44	15.79	4.4	5,980	10,764	474	833
			2	......	35.94	45.09	18.97	.60	4.74	64.10	1.55	10.04	......	6,451	11,611		
			3	......	44.35	55.65	......	.74	5.85	79.11	1.91	12.39	......	7,961	14,330		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WASHINGTON—Continued.																	
KING COUNTY—continued.																	
Bayne, Bayne mine—Continued.																	
Same (15 feet from entrance, lower 2 feet)	9269	B	1	5.78	36.98	48.29	8.95	0.63	5.65	69.01	1.72	14.04	3.3	6,971	12,547	474	833
			2	....	39.25	51.25	9.50	.65	5.32	73.25	1.83	9.45	....	7,399	13,318		
			3	....	43.36	56.64	....	.72	5.88	80.94	2.02	10.44	....	8,177	14,719		
Same (at entrance, weathered)	9275	B	1	12.12	31.31	43.55	13.02	.46	5.19	56.76	1.38	23.19	5.5	5,466	9,838	474	833
			2	....	35.63	49.56	14.81	.52	4.37	64.59	1.57	14.14	....	6,220	11,196		
			3	....	41.82	58.18	....	.61	5.13	75.81	1.84	16.61	....	7,301	13,142		
NW. ¼ sec. 22, T. 21 N., R. 7 E., prospect, highest bed on hill, surface exposure, 23½-inch bed, 22-inch cut.	9483	B	1	7.50	23.31	35.62	33.57	1.77	....	....	....	....	4.5	4,420	7,956	474	833
			2	....	25.20	38.51	36.29	1.91	....	....	....	....	....	4,778	8,600		
			3	....	39.55	60.45	....	3.00	....	....	....	....	....	7,503	13,505		
NE. ¼ NE. ¼ sec. 21, T. 21 N., R. 7 E., small drift, 72 feet in, 66½-inch bed, 61½-inch cut.	9488	B	1	6.02	31.16	43.47	19.35	.42	4.90	59.59	1.15	14.59	3.5	5,949	10,708	474	835
			2	....	33.16	46.25	20.59	.45	4.50	63.40	1.22	9.84	....	6,330	11,394		
			3	....	41.76	58.24	....	.57	5.66	79.85	1.54	12.38	....	7,971	14,348		
¼ mile northwest of; SE. ¼ sec. 16, T. 21 N., R. 7 E., Occidental mine (550 feet from entrance to first water level, No. 1 bed, 70½ inches, 67-inch cut).	9479	B	1	5.13	34.40	47.54	12.93	.72	5.38	66.31	1.17	13.49	2.4	6,646	11,963	474	835
			2	....	36.26	50.11	13.63	.76	5.07	69.90	1.22	9.42	....	7,006	12,611		
			3	....	41.98	58.02	....	.88	5.86	80.93	1.41	10.92	....	8,112	14,602		
Same (310 feet from entrance to gangway, old No. 2 bed, 3¾ feet, 40½-inch cut).	9480	B	1	5.35	33.03	47.11	14.51	.70	5.20	64.12	1.28	14.19	2.5	6,439	11,590	474	835
			2	....	34.90	49.77	15.33	.74	4.87	67.74	1.35	9.97	....	6,801	12,242		
			3	....	41.22	58.78	....	.87	5.75	80.01	1.59	11.78	....	8,033	14,459		
Same (No. 6 bed, 43 inches, 38½-inch cut, 112 feet from surface).	9481	B	1	5.55	31.80	40.85	21.80	.50	4.91	57.00	1.30	14.49	2.8	5,783	10,409	474	835
			2	....	33.67	43.25	23.08	.53	4.54	60.35	1.38	10.12	....	6,121	11,018		
			3	....	43.77	56.23	....	.69	5.90	78.46	1.79	13.16	....	7,958	14,324		
Same (old No. 3 bed, 100 feet above first level, 60½ inches, 4½-foot cut).	9478	B	1	4.77	34.33	48.48	12.42	1.12	5.60	66.87	1.12	12.87	2.1	6,780	12,204	474	835
			2	....	36.05	50.91	13.04	1.18	5.32	70.22	1.18	9.06	....	7,120	12,816		
			3	....	41.46	58.54	....	1.36	6.12	80.75	1.36	10.41	....	8,188	14,738		
Same (old No. 3 bed, 660 feet up dip, 61½ inches, 57½-inch cut).	9475	B	1	5.06	34.39	48.90	11.65	1.18	5.22	66.72	1.08	14.15	2.1	6,705	12,069	474	835
			2	....	36.22	51.51	12.27	1.24	4.90	70.28	1.14	10.17	....	7,062	12,712		
			3	....	41.29	58.71	....	1.41	5.59	80.11	1.30	11.59	....	8,050	14,489		
Same (200 feet down slope and 30 feet to the west, new mine, No. 14 bed, 70½-inch cut).	9477	B	1	4.16	33.14	45.47	17.23	.58	....	....	....	....	1.8	....	....	474	835
			2	....	34.57	47.45	17.98	.61	....	....	....	....	....	....	....		
			3	....	42.15	57.85	....	.74	....	....	....	....	....	....	....		
Same (new mine, No. 14 bed, 1½-foot cut)	9476	B	1	4.04	36.72	52.61	6.63	.51	....	....	....	....	1.6	....	....	474	835
			2	....	38.27	54.82	6.91	.53	....	....	....	....	....	....	....		

			3		41.11	58.89		.57									
Same (in new mine, composite of Nos. 9476-7)..	9491	B	1	3.97	35.18	48.76	12.09	.49	5.55	67.50	1.70	12.67	1.7	6,857	12,342	474	835
			2		36.63	50.78	12.59	.51	5.32	70.29	1.77	9.52		7,140	12,852		
			3		41.90	58.10		.58	6.09	80.41	2.02	10.90		8,168	14,702		
½ mile northeast of; SE. ¼ sec. 15, T. 21 N., R. 7 E., Carbon mine (No. 1 bed, 4-foot cut).	9485	B	1	4.23	32.41	52.23	11.13	.45	5.25	69.00	1.41	12.76	2.3	6,982	12,568	474	837
			2		33.84	54.54	11.62	.47	4.99	72.05	1.47	9.40		7,291	13,124		
			3		38.29	61.71		.53	5.65	81.52	1.66	10.64		8,250	14,850		
Same (No. 1 bed, spherical nodules)...........	9486	B	1	3.81	33.64	53.34	9.21	.39					1.5			474	837
			2		34.97	55.45	9.58	.41									
			3		38.68	61.32		.45									
Same (No. 2 bed, 32½-inch cut)................	9489	B	1	5.13	30.82	55.95	8.10	.36	5.19	72.48	1.14	12.73	3.1	7,139	12,847	474	837
			2		32.49	58.97	8.54	.38	4.87	76.40	1.20	8.61		7,524	13,543		
			3		35.52	64.48		.42	5.32	83.54	1.31	9.41		8,227	14,809		
Same (composite of Nos. 9485 and 9486)........	9492	B	1	4.13	32.79	52.74	10 34	.45	5.33	71.51	1.56	10.81	1.9	7,102	12,784	474	838
			2		34.20	55.01	10.79	.47	5.08	74.59	1.63	7.44		7,408	13,334		
			3		38.34	61.66		.53	5.69	83.62	1.83	8.33		8,304	14.947		
1 mile south of; sec. 28, T. 21 N., R. 7 E., Eureka (abandoned) mine, 174 feet in, 58½-inch cut.	9294	B	1	5.94	31.28	43.86	18.92	.47	5.08	60.35	1.13	14.05	4.2	6,077	10,938	474	839
			2		33.26	46.63	20.11	.50	4.70	64.16	1.20	9.33		6,461	11,630		
			3		41.63	58.37		.63	5.88	80.31	1.50	11.68		8,087	14,557		
1½ miles east of; NW. ¼ NE. ¼ sec. 23, T. 21 N., R. 7 E., Big Six mine, Pocahontas (?) 37-inch bed, 30 feet in mine, 34-inch cut.	9278	B	1	4.57	31.01	52.18	12.24	.73	5.27	70.07	1.05	10.64	3.1	7,074	12,732	474	839
			2		32.50	54.67	12.83	.76	4.99	73.43	1.10	6.89		7,413	13,343		
			3		37.28	62.72		.87	5.72	84.24	1.26	7.91		8,504	15,307		
Black Diamond, ½ mile east of; NW. ¼ SE. ¼ sec. 14, T. 21 N., R. 6 E., No. 14 mine (level 8, north gangway, Upper McKay[a] 4½-foot bed, 3¾-foot cut).	9114	B	1	7.98	37.69	45.95	8.38	.45	5.60	64.79	1.69	19.09	6.0	6,518	11,732	474	839
			2		40.96	49.93	9.11	.49	5.12	70.41	1.84	13.03		7,083	12,749		
			3		45.06	54.94		.54	5.63	77.47	2.02	14.34		7,792	14,026		
Same (north level 8, 70 feet from gangway, McKay bed, 63½ inches, 63½-inch cut).	9105	B	1	7.4	39.5	49.0	4.1	1.28	5.56	68.25	1.92	18.92	4.8	6,945	12,500	474	839
			2		42.5	53.1	4.4	1.38	5.12	73.68	2.07	13.36		7,495	13,500		
			3		44.5	55.5		1.44	5.35	77.06	2.17	13.98		7,840	14,110		
1 mile northeast of; SW. ¼ NW. ¼ sec. 13, T. 21 N., R. 6 E., Lawson mine (level 6, side of gangway, McKay bed, 4¾-foot cut).	9104	B	1	4.9	42.0	48.6	4.5	.47	5.85	72.41	1.58	15.18	3.2	7,300	13,140	474	840
			2		44.0	51.3	4.7	.49	5.58	76.17	1.66	11.36		7,680	13,820		
			3		46.0	54.0		.51	5.86	79.96	1.74	11.93		8,060	14,510		
Same (Upper McKay bed, 4¾ feet, 52½-inch cut).	9107	B	1	6.07	36.23	43.50	14.20	.56	5.22	62.38	1.54	16.10	4.2	6,337	11,407	474	840
			2		38.57	46.31	15.12	.60	4.84	66.41	1.64	11.39		6,746	12,143		
			3		45.44	54.56		.71	5.70	78.24	1.93	13.42		7,947	14,305		
1 mile northwest of; SW. ¼ sec. 11, T. 21 N., R. 6 E., Morgan mine (level 6, 15 feet above north gangway, Upper McKay bed, 56½ inches, 54½-inch cut).	9108	B	1	7.77	37.97	45.10	9.16	.44	5.48	64.07	1.38	19.47	5.4	6,485	11,673	474	841
			2		41.17	48.90	9.93	.48	5.01	69.46	1.50	13.62		7,031	12,656		
			3		45.71	54.29		.53	5.56	77.11	1.67	15.13		7,806	14,051		
Same (level 6. 12 feet above north gangway, 6-foot cut), McKay bed.	9106	B	1	6.75	40.01	47.90	5.34	1.35	5.76	67.67	1.89	17.99	4.6	6,848	12,326	474	841
			2		42.91	51.36	5.73	1.45	5.37	72.57	2.03	12.85		7,344	13,219		
			3		45.52	54.48		1.54	5.70	76.98	2.15	13.63		7,791	14,024		
Coal Creek, SE. ¼ sec. 26, T. 24 N., R. 5 E., Bagley mine (level 1, gangway entrance to rock tunnel, Bagley No. 1 bed, 5 feet, 4¾-foot cut).	9170	B	1	12.05	36.82	40.72	10.41	.34	5.75	58.15	1.37	23.98	6.6	5,786	10,414	474	842
			2		41.86	46.30	11.84	.39	5.01	66.12	1.56	15.08		6,579	11,842		
			3		47.48	52.52		.44	5.68	75.00	1.77	17.11		7,463	13,423		
Same (water level 1, Bagley No. 2 bed, upper bench, 31 inches, 23½-inch cut).	9171	B	1	9.27	39.94	36.79	14.00	3.82	5.67	57.85	1.19	17.47	4.6	5,902	10,624	474	842
			2		44.02	40.55	15.43	4.21	5.11	63.76	1.31	10.18		6,505	11,709		
			3		52.05	47.95		4.98	6.04	75.40	1.55	12.03		7,692	13,846		
Same (water level 1, Bagley No. 2 bed, lower bench, 49 inches, 48-inch cut).	9169	B	1	12.32	36.76	39.76	11.16	.89	5.77	57.75	1.21	23.22	7.5	5,736	10,325	474	842
			2		41.92	45.35	12.73	1.02	5.02	65.86	1.38	13.99		6,542	11,776		
			3		48.04	51.96		1.17	5.75	75.47	1.58	16.03		7,496	13,493		

[a] Also known as Little McKay bed.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WASHINGTON—Continued.																	
KING COUNTY—continued.																	
Coal Creek—Continued.																	
SE. ¼ SE. ¼ sec. 25, T. 24 N., R. 5 E., Ford mine, east end of air course 1 above gangway, 5,400 feet east of the slope (Muldoon bed, 62½-inch cut).	9163	B	1	14.33	31.54	42.38	11.75	0.44	5.84	56.12	1.25	24.60	9.7	5,536	9,965	474	842
			2	......	36.81	49.47	13.72	.51	4.96	65.51	1.46	13.84	......	6,462	11,631		
			3	......	42.66	57.34	......	.59	5.75	75.93	1.69	16.04	......	7,489	13,480		
Same (level 1 gangway, 700 feet east of cross tunnel, No. 3 bed, lower bench, 21½-inch cut).	9164	B	1	14.45	32.53	45.65	7.37	.42	5.88	59.60	1.05	25.68	9.7	5,789	10,420	474	842
			2	......	38.02	53.37	8.61	.49	4.99	69.67	1.23	15.01	......	6,767	12,181		
			3	......	41.60	58.40	......	.54	5.46	76.23	1.36	16.41	......	7,404	13,327		
Same (level 1 gangway, 1,400 feet west of slope, Muldoon (6-foot 1-inch) bed, 65-inch cut).	9165	B	1	12.86	35.79	40.87	10.48	.55	5.83	58.92	1.36	22.86	7.1	5,760	10,368	474	842
			2	......	41.07	46.90	12.03	.63	5.05	67.62	1.56	13.11	......	6,609	11,896		
			3	......	46.68	53.32	......	.72	5.74	76.86	1.77	14.91	......	7,514	13,525		
Same (level 1 gangway, 5,750 feet west of slope, Muldoon (64¾-inch) bed, 56-inch cut).	9166	B	1	13.07	34.69	39.50	12.74	.71	5.76	56.45	1.35	22.99	7.2	5,535	9,963	474	842
			2	......	39.91	45.43	14.66	.82	4.96	64.94	1.55	13.07	......	6,367	11,461		
			3	......	46.77	53.23	......	.96	5.81	76.10	1.82	15.31	......	7,461	13,430		
Same (level 1 gangway, 700 feet east of cross tunnel, No. 3 (55¾-inch) bed, upper bench, 51¾-inch cut).	9168	B	1	14.5	31.0	43.2	11.30	.36	5.80	56.23	1.08	25.23	8.6	5,565	10,015	474	842
			2	......	36.0	50.8	13.22	.42	4.90	65.76	1.26	14.44	......	6,505	11,710		
			3	......	41.50	58.50	......	.48	5.65	75.78	1.45	16.64	......	7,500	13,500		
Same (level 1 gangway, 650 feet east of cross tunnel, No. 4 (4⅝-foot) bed, 4½-foot cut).	9167	B	1	14.81	33.28	43.65	8.26	.37	6.03	58.48	1.34	25.52	8.9	5,686	10,235	474	842
			2	......	39.06	51.24	9.70	.44	5.14	68.64	1.57	14.51	......	6,674	12,012		
			3	......	43.26	56.74	......	.49	5.69	76.01	1.74	16.07	......	7,391	13,304		
Cumberland, 1 mile south of; SW. ¼ sec. 28, T. 21 N., R. 7 E., Independent mine, 18 feet in, at foot of slope (upper part of lower bench of bed, 41-inch cut).	9286	B	1	5.84	31.32	36.46	26.38	.47	4.80	52.77	1.30	14.28	3.4	5,294	9,529	474	844
			2	......	33.26	38.72	28.02	.50	4.41	56.04	1.38	9.65	......	5,622	10,120		
			3	......	46.21	53.79	......	.69	6.13	77.86	1.92	13.40	......	7,810	14,058		
Same (upper bench of bed, 41-inch cut)........	9474	B	1	6.01	29.75	40.76	23.48	.65	......	......	......	......	3.4	5,582	10,048	474	844
			2	......	31.65	43.37	24.98	.69	......	......	......	......	......	5,939	10,690		
			3	......	42.20	57.80	......	.92	......	......	......	......	......	7,918	14,252		
1 mile southeast of; SE. ¼ sec. 28, T. 21 N., R. 7 E., Sunset mine (30 feet down dip from surface, No. 1 bed, 56½-inch cut).	9263	B	1	12.73	31.06	43.73	12.48	.89	......	......	......	......	6.2	5,493	9,887	474	845
			2	......	35.59	50.11	14.30	1.02	......	......	......	......	......	6,294	11,329		
			3	......	41.53	58.47	......	1.19	......	......	......	......	......	7,344	13,219		
Same (about 1,450 feet from entrance to gangway, No. 2 (3½-foot) bed, 36½-inch cut).	9264	B	1	4.49	34.07	39.67	21.77	.77	4.91	59.23	.91	12.41	2.2	5,960	10,728	474	845
			2	......	35.67	41.54	22.79	.81	4.62	62.01	.95	8.82	......	6,240	11,232		
			3	......	46.20	53.80	......	1.05	5.98	80.32	1.23	11.42	......	8,082	14,547		

Same (about 1,450 feet from entrance to gangway, No. 3 (44½-inch) bed, 27½-inch cut).	9265	B	1	5.56	34.40	45.03	15.01	2.41	5.13	63.79	.96	12.70	2.8	6,491	11,684	474	845
			2	....	36.43	47.68	15.89	2.55	4.78	67.55	1.01	8.22	....	6,872	12,371		
			3	....	43.31	56.69	....	3.03	5.68	80.30	1.20	9.79	....	8,169	14,704		
Same (30 feet from entrance to tunnel, No. 7 (72½-inch) bed, 70-inch cut).	9276	B	1	4.94	26.44	30.08	38.54	.41	....	....	....	....	2.6	4,439	7,990	474	846
			2	....	27.81	31.65	40.54	.43	....	....	....	....	....	4,670	8,407		
			3	....	46.77	53.23	....	.72	....	....	....	....	....	7,854	14,136		
1 mile west of; NE. ¼ sec. 29, T. 21 N., R. 7 E., Rose-Marshall mine, from lumps under cover, weathered.	9293	B	1	5.24	38.79	47.55	8.42	.47	....	....	....	....	2.6	7,027	12,649	474	846
			2	....	40.94	50.17	8.89	.50	....	....	....	....	....	7,416	13,349		
			3	....	44.94	55.06	....	.55	....	....	....	....	....	8,139	14,648		
Same (500 feet down slope from surface, left side, 73-inch cut).	10512	B	1	7.23	34.37	42.41	15.99	.58	5.32	61.16	1.43	15.52	3.3	6,166	11,099	474	846
			2	....	37.05	45.71	17.24	.63	4.87	65.92	1.54	9.80	....	6,646	11,963		
			3	....	44.77	55.23	....	.76	5.88	79.65	1.86	11.85	....	8,030	14,454		
Same, SE. ¼ NW. ¼ sec. 28, T. 21 N., R. 7 E., Naval mine (crosscut 1 above water-level gangway, 144 feet north of rock tunnel, No. 4 bed, 29½ inches, 29-inch cut).	9287	B	1	5.47	32.30	41.20	21.03	.69	5.01	59.49	1.64	12.14	2.8	6,012	10,822	474	847
			2	....	34.17	43.59	22.24	.73	4.65	62.93	1.73	7.72	....	6,360	11,448		
			3	....	43.94	56.06	....	.94	5.98	80.93	2.22	9.93	....	8,179	14,722		
Same (north water-level gangway, about 330 feet from rock tunnel, No. 6 bed, lower bench, 2½-foot cut).	9284	B	1	4.80	35.64	47.40	12.16	.52	5.35	66.81	1.65	13.51	2.7	6,773	12,191	474	847
			2	....	37.44	49.79	12.77	.55	5.06	70.18	1.73	9.71	....	7,114	12,805		
			3	....	42.92	57.08	....	.63	5.80	80.45	1.98	11.14	....	8,155	14,679		
Same (position and bed same as No. 9284, upper bench, 19-inch cut).	9285	B	1	6.18	30.00	37.49	26.33	.65	....	....	....	....	4.0	5,342	9,616	474	847
			2	....	31.97	39.97	28.06	.69	....	....	....	....	....	5,694	10,249		
			3	....	44.45	55.55	....	.95	....	....	....	....	....	7,915	14,247		
Danville Junction, SW. ¼ sec. 24, T. 22 N., R. 6 E., Danville mine, 20 feet southwest, 71½-inch cut.	9323	B	1	18.08	32.56	41.32	8.04	.51	....	....	....	....	10.9	5,449	9,807	474	847
			2	....	39.75	50.44	9.81	.62	....	....	....	....	....	6,652	11,974		
			3	....	44.07	55.93	....	.69	....	....	....	....	....	7,376	13,277		
Franklin, sec. 19, T. 21 N., R. 7 E., surface prospect, Gem (?) bed, 32½-inch cut.	9487	B	1	14.26	34.41	42.24	9.09	.57	....	....	....	....	7.1	5,710	10,278	474	848
			2	....	40.13	49.27	10.60	.66	....	....	....	....	....	6,660	11,988		
			3	....	44.89	55.11	....	.74	....	....	....	....	....	7,450	13,409		
Sec. 19, T. 21 N., R. 7 E., surface exposure, McKay bed, 51½-inch cut.	9484	B	1	6.10	39.23	51.23	3.44	.48	5.97	72.72	1.63	15.76	2.9	7,352	13,234	474	848
			2	....	41.78	54.56	3.66	.51	5.63	77.45	1.74	11.01	....	7,830	14,094		
			3	....	43.37	56.63	....	.53	5.84	80.39	1.81	11.43	....	8,128	14,631		
½ mile southwest of; sec. 19, T. 21 N., R. 7 E., Gem mine, Gem bed, 10 feet up chute 9, 42½-inch cut.	9103	B	1	7.3	34.0	47.9	10.8	.53	5.38	63.53	1.69	18.07	4.9	6,345	11,430	474	848
			2	....	37.0	51.3	11.7	.57	4.93	68.53	1.82	12.50	....	6,845	12,330		
			3	....	42.0	58.0	....	.65	5.58	77.57	2.06	14.14	....	7,750	13,950		
Grand Ridge, ½ mile north of; SE. ¼ NW. ¼ sec. 26, T. 24 N., R. 6 E., Grand Ridge mine (220 feet north of rock tunnel, No. 1 bed, 83½ inches, 79-inch cut).	8544	B	1	14.23	30.29	43.82	11.66	.36	5.77	56.70	1.06	24.45	6.1	5,575	10,040	474	849
			2	....	35.32	51.09	13.59	.42	4.89	66.11	1.24	13.75	....	6,500	11,700		
			3	....	40.88	59.12	....	.49	5.66	76.51	1.44	15.90	....	7,525	13,550		
Same (north end of level 1, near rock tunnel, No. 2 bed, 4-foot cut).	8545	B	1	13.8	32.5	36.0	17.7	.49	5.64	51.24	.95	23.98	3.8	5,075	9,135	474	849
			2	....	37.5	42.0	20.5	.57	4.77	59.43	1.10	13.60	....	5,885	10,600		
			3	....	47.5	52.5	....	.72	6.00	74.77	1.38	17.13	....	7,395	13,320		
Same (washed coal)...........................	9883	B	1	18.03	33.47	34.42	14.08	.38	5.95	51.74	1.03	26.82	8.5	5,044	9,079	474	849
			2	....	40.83	41.99	17.18	.46	4.82	63.12	1.26	13.16	....	6,154	11,077		
			3	....	49.30	50.70	....	.56	5.82	76.21	1.52	15.89	....	7,430	13,374		
Issaquah, ½ mile southwest of; SE. ¼ NE. ¼ sec. 33, T. 24 N., R. 6 E., Issaquah mine (50 feet down slope, No. 4 bed, 59 inches, 4¾-foot cut).	8542	B	1	17.9	29.0	43.8	9.3	.35	....	....	....	....	8.0	5,450	9,810	474	850
			2	....	35.5	53.2	11.3	.45	....	....	....	....	....	6,635	11,940		
			3	....	40.0	60.0	....	.50	....	....	....	....	....	7,480	13,460		
Same (688 feet in, No. 5 bed, 54½ inches, 47-inch cut).	8543	B	1	15.06	29.36	44.23	11.35	1.12	5.65	55.58	1.09	25.21	6.6	5,531	9,956	474	850
			2	....	34.57	52.07	13.36	1.32	4.69	65.43	1.28	13.92	....	6,512	11,722		
			3	....	39.90	60.10	....	1.52	5.41	75.52	1.48	16.07	....	7,516	13,529		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WASHINGTON—Continued.																	
KING COUNTY—continued.																	
Issaquah—Continued.																	
1½ miles southwest of; SW. ¼ SE. ¼ sec. 32, T. 24 N., R. 6 E., Superior mine, No. 0 bed (60 feet from entrance, wet sample, 43½-inch bed, 38½-inch cut).	8547	B	1	12.41	29.68	41.82	16.09	1.61					4.3	5,480	9,864	474	850
			2		33.87	47.76	18.37	1.84						6,257	11,263		
			3		41.50	58.50		2.25						7,665	13,797		
Same (900 feet from entrance, wet sample, 81½-inch bed, 79+-inch cut).	8548	B	1	12.8	28.5	43.6	15.11	.68	5.56	55.68	1.11	21.86	5.3	5,625	10,120	474	850
			2		32.5	50.2	17.32	.78	4.75	63.83	1.27	12.05		6,445	11,610		
			3		39.5	60.5		.94	5.74	77.21	1.54	14.57		7,795	14,030		
3 miles north of; SW. ¼ SW. ¼ sec. 13, T. 24 N., R. 6 E., prospect, bottom of shaft, 73½-inch cut.	*9291	B	1	17.51	31.17	38.55	12.77	.37	5.85	52.11	1.08	27.82	9.7	5,184	9,331	474	851
			2		37.79	46.73	15.48	.45	4.73	63.17	1.31	14.86		6,284	11,312		
			3		44.71	55.29		.53	5.60	74.74	1.55	17.58		7,434	13,381		
Kummer, SE. ¼ NE. ¼ sec. 26, T. 21 N., R. 6 E., Kummer mine (100 feet south of entrance, 49½-inch bed, 46½-inch cut).	*9115	B	1	12.35	30.41	34.83	22.41	.59					9.7	4,728	8,510	474	851
			2		34.69	39.74	25.57	.67						5,394	9,709		
			3		46.61	53.39		.90						7,247	13,045		
Same (1,500 feet north of entrance, No. 1 bed, 50½ inches, 49½-inch cut).	*9113	B	1	14.15	29.87	47.06	8.92	.43	5.80	58.39	1.32	25.14	12.3	5,797	10,435	474	851
			2		34.79	54.82	10.39	.50	4.93	68.01	1.54	14.63		6,752	12,154		
			3		38.82	61.18		.56	5.49	75.89	1.72	16.34		7,535	13,563		
Palmer Junction, NE. ¼ NE. ¼ sec. 14, T. 21 N., R. 7 E., Hudson prospect (lower bench, 1½-foot cut).	9482	B	1	4.76	23.67	39.15	32.42	.66					2.9	5,038	9,068	474	852
			2		24.85	41.11	34.04	.69						5,290	9,522		
			3		37.66	62.34		1.05						8,020	14,435		
Same (upper 31½-inch bench, 24-inch cut)......	9288	B	1	4.41	24.98	37.26	33.35	.58					2.5	4,973	8,951	474	852
			2		26.13	38.98	34.89	.61						5,202	9,364		
			3		40.13	59.87		.94						7,990	14,382		
Preston, 1 mile southwest of; sec. 31, T. 24 N., R. 7 E., prospect, 25 feet in, wet sample, 3-foot cut.	8546	B	1	5.48	7.32	30.52	56.68	3.30					4.0	2,711	4,880	474	853
			2		7.74	32.30	59.96	3.49						2,868	5,162		
			3		19.33	80.67		8.72						7,163	12,893		
3 miles southwest of; 6 miles from Issaquah, SE. ¼ SW. ¼ sec. 12, T. 23 N., R. 6 E., surface prospect (main bed, upstream 4 feet, 46½-inch cut).	9290	B	1	11.39	27.89	50.47	10.75	.23					8.9	6,330	11,394	474	853
			2		30.91	56.96	12.13	.26						7,143	12,857		
			3		35.18	64.82		.30						8,129	14,632		
Same (3½-foot bed, downstream, 25-inch cut)...	9289	B	1	12.54	28.01	45.54	13.91	2.37					8.5	5,702	10,264	474	853
			2		32.03	52.07	15.90	2.71						6.520	11,736		
			3		38.08	61.92		3.22						7,752	13.954		

Ravensdale, NE. ¼ sec. 1, T. 21 N., R. 6 E., McKay mine, McKay bed (south end of south gangway, level 1, wet sample, 62½ inches, 61½-inch cut).	9281	B	1	11.78	39.58	44.94	3.70	.48	......	......	......	......	5.0	6,515	11,727	474	854
			2	......	44.86	50.95	4.19	.54	......	......	......	......	......	7,385	13,293		
			3	......	46.82	53.18	......	.56	......	......	......	......	......	7,708	13,874		
Same (north end of south gangway, entire bed, 5-foot cut).	9280	B	1	11.15	39.72	45.13	4.00	.52	6.08	65.89	1.73	21.78	4.7	6,538	11,768	474	854
			2	......	44.70	50.79	4.51	.59	5.45	74.16	1.95	13.34	......	7,359	13,246		
			3	......	46.81	53.19	......	.62	5.71	77.67	2.04	13.96	......	7,707	13,873		
Same (north end of north gangway, 56½-inch cut).	9279	B	1	13.34	40.05	43.43	3.18	.39	6.08	64.15	1.65	24.55	4.9	6,385	11,493	474	854
			2	......	46.21	50.12	3.67	.45	5.31	74.02	1.90	14.65	......	7,368	13,262		
			3	......	47.97	52.03	......	.47	5.51	76.84	1.97	15.21	......	7,649	13,768		
Same (position same as 9281, bony coal, 21½-inch cut).	*9282	B	1	13.73	27.96	36.40	21.91	.58	......	......	......	......	6.8	4,714	8,485	474	854
			2	......	32.41	42.19	25.40	.67	......	......	......	......	......	5,464	9,835		
			3	......	43.45	56.55	......	.90	......	......	......	......	......	7,324	13,183		
Same (position same as 9281, upper bench, 38½-inch cut).	*9283	B	1	11.74	34.66	47.96	5.64	.36	6.14	64.04	1.73	22.09	5.5	6,332	11,398	474	854
			2	......	39.27	54.34	6.39	.41	5.48	72.56	1.96	13.20	......	7,174	12,913		
			3	......	41.95	58.05	......	.44	5.85	77.52	2.09	14.10	......	7,663	13,792		
NE. ¼ sec. 36, T. 22 N., R. 6 E., Ravensdale No. 1 mine, level 2 (east end of gangway, No. 9 bed, 26½-inch cut).	9277	B	1	7.32	40.30	46.56	5.82	.63	5.87	68.28	1.76	17.64	2.9	6,873	12,371	474	855
			2	......	43.48	50.24	6.28	.68	5.46	73.67	1.90	12.01	......	7,416	13,349		
			3	......	46.38	53.62	......	.71	5.83	78.61	2.03	12.82	......	7,912	14,242		
Same (20 feet up dip from east gangway, No. 5 bed, 59 inches, 48½-inch cut).	9274	B	1	8.14	37.17	42.73	11.96	.29	5.47	61.85	1.43	19.00	2.9	6,194	11,149	474	855
			2	......	40.46	46.52	13.02	.32	4.97	67.33	1.56	12.80	......	6,743	12,137		
			3	......	46.52	53.48	......	.37	5.69	77.41	1.79	14.74	......	7,752	13,954		
Same (150 feet up chute 59, east gangway, No. 5 bed, lower bench, 67½-inch cut).	9273	B	1	9.73	36.57	39.99	13.71	.37	5.44	59.47	1.53	19.48	4.0	5,938	10,688	474	855
			2	......	40.51	44.30	15.19	.41	4.83	65.88	1.69	12.00	......	6,578	11,840		
			3	......	47.76	52.24	......	.48	5.69	77.68	1.99	14.16	......	7,756	13,961		
Same (position and bed same as 9273, upper bench, 38½-inch cut).	9272	B	1	9.08	35.11	39.17	16.64	1.24	5.26	56.49	1.53	18.84	3.6	5,685	10,233	474	855
			2	......	38.62	43.08	18.30	1.36	4.67	62.13	1.68	11.86	......	6,254	11,257		
			3	......	47.27	52.73	......	1.66	5.72	76.05	2.06	14.51	......	7,655	13,779		
Same (position and bed same as 9273, entire bed, 10 feet 7½ inches, 10-foot ½-inch cut).	9271	B	1	9.44	35.72	39.21	15.63	.70	5.33	57.83	1.53	18.98	3.9	5,770	10,386	474	855
			2	......	39.44	43.30	17.26	.77	4.73	63.86	1.69	11.69	......	6,371	11,466		
			3	......	47.67	52.33	......	.93	5.72	77.18	2.04	14.13	......	7,702	13,864		
Same (15 feet east of sump at base of slope, No. 5 bed, upper part 91¼ inches, 76¼-inch cut).	9270	B	1	9.23	38.03	45.58	7.16	.35	5.57	66.63	1.53	18.76	4.1	6,565	11,817	474	855
			2	......	41.90	50.21	7.89	.39	5.00	73.41	1.69	11.62	......	7,233	13,019		
			3	......	45.49	54.51	......	.42	5.43	79.70	1.83	12.62	......	7,852	14,134		
Same (100 feet up chute 16, east gangway, No. 4 bed, 67½ inches, 67-inch cut).	9267	B	1	7.42	37.42	43.92	11.24	.51	5.63	63.91	1.52	17.19	3.0	6,388	11,498	474	855
			2	......	40.42	47.44	12.14	.55	5.20	69.03	1.64	11.44	......	6,900	12,420		
			3	......	46.01	53.99	......	.63	5.92	78.55	1.87	13.03	......	7,854	14,137		
Same (east gangway, No. 3 bed, 98¾ inches, 74-inch cut).	9266	B	1	9.00	35.36	43.47	12.17	.95	5.37	61.90	1.40	18.21	3.6	6.195	11,150	474	855
			2	......	38.86	47.77	13.37	1.04	4.80	68.02	1.54	11.23	......	6,808	12,254		
			3	......	44.86	55.14	......	1.20	5.54	78.52	1.78	12.96	......	7,858	14,144		
Sec. 36, T. 22 N., R. 6 E., No. 5 bed, lower 7 feet of 20-foot seam (upper part not exposed).	6487	B	1	11.11	33.30	43.41	12.18	.30	......	......	......	......	6.3	5,922	10,660	474	855
			2	......	37.46	48.84	13.70	.34	......	......	......	......	......	6,662	11,992		
			3	......	43.40	56.60	......	.39	......	......	......	......	......	7,719	13,894		
3½ miles southeast of; NW. ¼ SE. ¼ sec. 28, T. 22 N., R. 7 E., McIntyre prospect, 5-foot cut.	9292	B	1	10.45	35.20	42.42	11.93	.35	5.60	59.74	.88	21.50	5.7	5,946	10,703	474	857
			2	......	39.31	47.37	13.32	.39	4.96	66.71	.98	13.64	......	6,640	11,952		
			3	......	45.35	54.65	......	.45	5.72	76.96	1.13	15.74	......	7,660	13,787		
Renton, sec. 19, T. 23 N., R. 5 E., Renton mine (2,400 feet south of slope and 4,300 feet from opening, No. 3, 11-foot bed, 67½-inch cut).	2455	A	1	16.18	35.65	39.31	8.86	.46	......	......	......	......	9.9	......	......	332	857
			2	......	42.53	46.90	10.57	.55	......	......	......	......	......	......	......	474	
			3	......	47.56	52.44	......	.62	......	......	......	......	......	......	......	18	
Same (150 feet from slope and 2,300 feet from opening, 97-inch bed, 72½-inch cut).	2456	A	1	17.97	35.13	39.12	7.78	.43	......	......	......	......	12.9	5,559	10,006	332	857
			2	......	42.83	47.69	9.48	.52	......	......	......	......	......	6,777	12,199	474	
			3	......	47.31	52.69	......	.57	......	......	......	......	......	7,487	13,477	23	

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WASHINGTON—Continued.																	
KING COUNTY—continued.																	
Renton, Renton mine—Continued.																	
Same (pea coal)	2687	C	1	16.04	31.39	41.04	11.53	0.61	5.57	56.51	1.16	24.62	10.7	5,521	9,938	332	......
			2	....	37.39	48.88	13.73	.73	4.51	67.31	1.38	12.34	....	6,576	11,837	474	
			3	....	43.34	56.66	....	.84	5.23	78.02	1.60	14.31	....	7,623	13,720		
			4	....	....	....	....	....	5.28	78.68	1.62	14.42	....	7,668	13,802		
Same (run of mine)	2686	C	1	14.30	33.03	41.30	11.37	.72	5.73	57.27	1.17	23.74	9.6	5,671	10,208	332	......
			2	....	38.54	48.19	13.27	.84	4.83	66.83	1.37	12.86	....	6,617	11,911	474	
			3	....	44.44	55.56	....	.97	5.57	77.05	1.57	14.84	....	7,630	13,734		
			4	....	....	....	....	....	5.62	77.80	1.59	14.99	....	7,682	13,828		
Same (north end of gangway, level 9 north, No. 3 bed, lower bench, 32½-inch cut).	*9156	B	1	14.22	35.53	42.67	7.58	.68	5.89	59.25	1.38	25.22	7.2	5,863	10,553	474	857
			2	....	41.42	49.74	8.84	.79	5.02	69.07	1.61	14.67	....	6,835	12,303		
			3	....	45.44	54.56	....	.87	5.51	75.77	1.77	16.08	....	7,498	13,496		
Same (position and bed same as 9156, upper bench 54 inches, 46-inch cut).	*9157	B	1	14.73	33.19	40.49	11.59	.47	5.95	55.37	1.29	25.33	7.5	5,483	9,868	474	857
			2	....	38.92	47.49	13.59	.55	5.05	64.93	1.51	14.37	....	6,430	11,574		
			3	....	45.04	54.96	....	.64	5.84	75.14	1.75	16.63	....	7,441	13,394		
Same (level 5 south, 140 feet up plane 1 north, No. 2 bed, 100½ inches, 3¾-foot cut).	*9158	B	1	14.52	31.82	38.81	14.85	.68	5.60	53.24	1.18	24.45	7.2	5,185	9,333	474	857
			2	....	37.22	45.41	17.37	.80	4.67	62.29	1.37	13.50	....	6,066	10,919		
			3	....	45.03	54.97	....	.97	5.65	75.39	1.66	16.33	....	7,341	13,213		
Same (level 7, 500 feet north of main slope, No. 3 bed, upper bench 54 inches, 4 1/12-foot cut).	*9159	B	1	14.63	33.98	41.46	9.93	.44	....	....	....	....	7.2	5,598	10,074	474	857
			2	....	39.80	48.57	11.63	.52	....	....	....	....	....	6,557	11,803		
			3	....	45.04	54.96	....	.59	....	....	....	....	....	7,420	13,356		
Same (position same as 9159, lower bench of No. 3 bed, 31-inch cut).	*9160	B	1	14.42	36.07	42.02	7.49	.60	....	....	....	....	8.1	5,876	10,577	474	857
			2	....	42.15	49.10	8.75	.70	....	....	....	....	....	6,865	12,357		
			3	....	46.19	53.81	....	.77	....	....	....	....	....	7,523	13,541		
Same (600 feet above level 6 south, plane 6 of new workings, No. 3 bed, upper bench 58 inches, 4⅚-foot cut).	*9161	B	1	16.27	31.91	43.40	8.42	.37	6.20	57.11	1.27	26.68	10.0	5,614	10,105	474	857
			2	....	38.11	51.83	10.06	.44	5.24	68.21	1.52	14.53	....	6,705	12,069		
			3	....	42.37	57.63	....	.49	5.83	75.84	1.69	16.15	....	7,455	13,419		
Same (position and bed same as 9161, lower bench 3 feet, 2⅔-foot cut).	*9162	B	1	15.00	35.39	43.84	5.77	.54	6.16	59.73	1.37	26.43	9.5	5,974	10,753	474	857
			2	....	41.64	51.57	6.79	.64	5.28	70.27	1.61	15.41	....	7,028	12,650		
			3	....	44.67	55.33	....	.69	5.66	75.39	1.73	16.53	....	7,540	13,572		
T. 23 N., R. 5 E., Denny-Renton mine, gangway, No. 1 bed (300 feet north of south line of sec. 17, upper bench 27 inches, 26-inch cut).	*9154	B	1	16.27	32.13	39.44	12.16	.48	5.77	53.58	1.33	26.68	8.1	5,228	9,410	474	859
			2	....	38.37	47.11	14.52	.57	4.73	63.99	1.59	14.60	....	6,244	11,239		
			3	....	44.89	55.11	....	.67	5.53	74.86	1.86	17.08	....	7,305	13,149		

Same (part taken 540 feet south by 160 feet west and part taken 120 feet south of north quarter corner sec. 20, lower bench, 83½ inches, 4½-foot cut).	*9155	B	1	16.79	32.23	39.12	11.86	.43	5.92	53.60	1.28	26.91	8.9	5,215	9,387	474	859
			2	......	38.73	47.02	14.25	.52	4.87	64.42	1.54	14.40	......	6,267	11,281		
			3	......	45.17	54.83	......	.61	5.68	75.13	1.80	16.78	......	7,309	13,156		
Snoqualmie, 1½ miles southwest of; Niblock mine (No. 3 bed, 25 feet up chute, about 500 feet from mine entrance, 48-inch cut).	10031	B	1	8.23	27.18	53.90	10.69	.47	5.22	69.64	1.84	12.14	7.3	6,912	12,442	474	860
			2	......	29.62	58.73	11.65	.51	4.69	75.89	2.01	5.25	......	7,532	13,558		
			3	......	33.53	66.47	......	.58	5.31	85.90	2.28	5.93	......	8,525	15,345		
Same (No. 4 bed, left of rock tunnel, 800 feet from entrance to No. 5 bed, 38-inch cut).	10032	B	1	6.09	22.69	58.81	12.41	.88	......	......	......	......	4.1	5,950	10,710	474	860
			2	......	24.16	62.63	13.21	.94	......	......	......	......	......	6,336	11,405		
			3	......	27.84	72.16	......	1.08	......	......	......	......	......	7,300	13,140		
Same (No. 5 bed, gangway at end of entrance tunnel to No. 5 bed, 160 feet from entrance, 60-inch cut).	10033	B	1	4.85	27.25	43.56	24.34	1.48	4.92	57.86	1.38	10.02	3.7	5,876	10,577	474	860
			2	......	28.64	45.78	25.58	1.56	4.60	60.81	1.45	6.00	......	6,176	11,117		
			3	......	38.48	61.52	......	2.10	6.18	81.71	1.95	8.06	......	8,299	14,938		
Taylor, sec. 3, T. 22 N., R. 7 E., Denny-Renton mine, chute 4, 3,000 feet northeast of opening (No. 5 bed, 35-inch cut).	520D	A	1	6.16	39.98	37.78	16.08	1.01	......	......	......	......	3.5	......	......	474 5	861
			2	......	42.61	40.25	17.14	1.08	......	......	......	......	......	......	......		
			3	......	51.43	48.57	......	1.30	......	......	......	......	......	......	......		
Same (chute 29, east gangway, No. 4 bed, 32½-inch cut).	9172	B	1	4.76	36.45	48.74	10.05	.81	5.37	68.09	1.35	14.33	2.6	6,892	12,406	474	861
			2	......	38.27	51.18	10.55	.85	5.09	71.49	1.42	10.60	......	7,237	13,027		
			3	......	42.78	57.22	......	.95	5.69	79.92	1.59	11.85	......	8,090	14,562		
Same (in small crosscut, No. 2 bed, 44½-inch cut).	9173	B	1	6.37	36.68	41.47	15.48	1.33	......	......	......	......	4.0	6,191	11,144	474	861
			2	......	39.17	44.30	16.53	1.42	......	......	......	......	......	6,612	11,902		
			3	......	46.92	53.08	......	1.70	......	......	......	......	......	7,921	14,258		
Same (chute 27, about 45 feet above east gangway, No. 5 bed, 49 inches, 46-inch cut).	9174	B	1	4.30	35.60	45.25	14.85	.74	5.20	65.14	1.60	12.47	2.3	6,593	11,867	474	861
			2	......	37.20	47.28	15.52	.77	4.93	68.06	1.67	9.05	......	6,889	12,400		
			3	......	44.03	55.97	......	.91	5.84	80.56	1.98	10.71	......	8,155	14,679		
Same (chute 5, about 25 feet above east gangway, No. 6 bed, 56½ inches, 55½-inch cut).	9175	B	1	5.6	36.0	44.0	14.4	.94	5.18	63.91	1.26	14.33	3.1	6,415	11,550	474	861
			2	......	38.0	46.8	15.2	1.00	4.83	67.67	1.33	9.94	......	6,795	12,230		
			3	......	45.0	55.0	......	1.18	5.70	79.83	1.57	11.72	......	8,015	14,430		
Same (50 feet west of position of 9173, No. 3 bed, 45½ inches, 41-inch cut).	9176	B	1	4.94	36.12	34.04	24.90	1.92	......	......	......	......	2.6	5,557	10,003	474	861
			2	......	38.00	35.81	26.19	2.02	......	......	......	......	......	5,846	10,523		
			3	......	51.48	48.52	......	2.74	......	......	......	......	......	7,920	14,256		
Same (2,400 feet northeast of drift mouth, No. 5 bed, 46-inch bed, 43½-inch cut).	518D	A	1	4.08	35.88	43.54	16.50	.54	......	......	......	......	2.2	6,420	11,556	474 5	861
			2	......	37.41	45.39	17.20	.55	......	......	......	......	......	6,693	12,047		
			3	......	45.18	54.82	......	.66	......	......	......	......	......	8,083	14,550		
Same (No. 4 bed, 1,500 feet northeast of drift mouth, 27½-inch cut).	519D	A	1	5.36	37.68	48.35	8.61	.63	......	......	......	......	3.3	6,859	12,344	474 5	861
			2	......	39.81	51.09	9.10	.67	......	......	......	......	......	7,247	13,045		
			3	......	43.79	56.21	......	.73	......	......	......	......	......	7,972	14,350		
Same (No. 4 bed)........................	585D	C	1	6.20	34.20	41.37	18.23	.69	4.95	60.12	1.41	14.60	2.6	6,049	10,888	474 5	......
			2	......	36.46	44.10	19.44	.74	4.54	64.09	1.50	9.69	......	6,448	11,606		
			3	......	45.25	54.75	......	.92	5.64	79.55	1.86	12.03	......	8,004	14,406		
Same (No. 5 bed)........................	586D	C	1	5.35	34.17	37.81	22.67	.77	4.72	56.98	1.37	13.49	2.3	5,728	10,310	474 5	......
			2	......	36.10	39.95	23.95	.81	4.36	60.20	1.45	9.23	......	6,052	10,894		
			3	......	47.47	52.53	......	1.06	5.73	79.16	1.91	12.14	......	7,957	14,324		
KITTITAS COUNTY.																	
Beekman, SW. ¼ NW. ¼ sec. 12, T. 20 N., R. 14 E., 3 miles northwest of Roslyn, Beekman mine, Roslyn bed (through 1¼-inch screen, from car).	9410	C	1	4.37	33.21	49.48	12.94	.35	5.46	69.83	1.56	9.86	2.7	6,958	12,524	474	......
			2	......	34.73	51.74	13.53	.37	5.20	73.02	1.63	6.25	......	7,276	13,097		
			3	......	40.16	59.84	......	.43	6.01	84.45	1.89	7.22	......	8,415	15,147		
Same (gangway level 2 west, between rooms 26 and 27, 61 inches, 58½-inch cut).	9411	B	1	3.62	35.14	50.51	10.73	.32	......	......	......	......	2.4	......	......	474	863
			2	......	36.46	52.41	11.13	.33	......	......	......	......	......	......	......		
			3	......	41.03	58.97	......	.37	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WASHINGTON—Continued.																	
KITTITAS COUNTY—continued.																	
Beekman, Beekman mine—Continued.																	
Same (end of gangway, level 2 east, 53½ inches, 53½-inch cut).	9412	B	1	3.53	34.62	50.20	11.65	0.38	......	......	......	......	1.8	......	......	474	863
			2	......	35.89	52.04	12.07	.39	......	......	......	......	......	......	......		
			3	......	40.82	59.18	......	.44	......	......	......	......	......	......	......		
Same (gangway, level 3 west, between rooms 17 and 18, 58½ inches, 57½-inch cut).	9414	B	1	2.49	34.90	49.97	12.64	.33	......	......	......	......	1.0	......	......	474	863
			2	......	35.79	51.25	12.96	.34	......	......	......	......	......	......	......		
			3	......	41.12	58.88	......	.39	......	......	......	......	......	......	......		
Same (foot of slope, 250 feet below level 4 gangway, 61-inch cut).	9415	B	1	2.57	34.69	48.89	13.85	.34	......	......	......	......	.8	......	......	474	863
			2	......	35.61	50.18	14.21	.35	......	......	......	......	......	......	......		
			3	......	41.51	58.49	......	.41	......	......	......	......	......	......	......		
Same (150 feet beyond room 21, gangway of level 3 east, 53½ inches, 52½-inch cut).	9413	B	1	3.38	35.53	49.82	11.27	.37	......	......	......	......	1.8	......	......	474	863
			2	......	36.77	51.56	11.67	.38	......	......	......	......	......	......	......		
			3	......	41.63	58.37	......	.43	......	......	......	......	......	......	......		
Same (composite of Nos. 9411-9415)............	9459	B	1	3.33	34.07	50.45	12.15	.35	5.61	70.67	1.65	9.57	1.8	7,173	12,911	474	863
			2	......	35.24	52.19	12.57	.36	5.42	73.10	1.71	6.84	......	7,420	13,356		
			3	......	40.30	59.70	......	.41	6.20	83.60	1.96	7.83	......	8,487	15,277		
Same (main slope, 1,000 feet southwest, 4¾ feet, 4½-foot cut).	550D	A	1	3.46	38.42	48.30	9.82	.41	......	......	......	......	1.9	7,347	13,225	474 5	863
			2	......	39.82	50.01	10.17	.43	......	......	......	......	......	7,610	13,698		
			3	......	44.33	55.67	......	.48	......	......	......	......	......	8,472	15,250		
Same (1,300 feet southwest of opening, rib on second west, 57-inch cut).	551D	A	1	8.99	36.23	46.04	8.74	.35	......	......	......	......	7.6	......	......	474 5	863
			2	......	39.81	50.59	9.60	.39	......	......	......	......	......	......	......		
			3	......	44.04	55.96	......	.43	......	......	......	......	......	......	......		
1 mile northwest of; sec. 11, T. 20 N., R. 14 E., Lakedale mine, 150 feet in, 43-inch bed, 36½-inch cut.	9405	B	1	4.45	29.52	44.55	21.48	.35	5.02	61.45	1.18	10.52	2.5	6,233	11,219	474	864
			2	......	30.90	46.62	22.48	.37	4.74	64.31	1.23	6.87	......	6,523	11,741		
			3	......	39.86	60.14	......	.48	6.11	82.96	1.59	8.86	......	8,415	15,147		
1½ mile northwest of; sec. 2, T. 20 N., R. 14 E., prospect, 25 feet in, 14½-inch cut.	9404	B	1	5.28	27.53	42.57	24.62	.38	......	......	......	......	4.1	5,859	10,546	474	865
			2	......	29.06	44.95	25.99	.40	......	......	......	......	......	6,185	11,133		
			3	......	39.27	60.73	......	.54	......	......	......	......	......	8,357	15,043		
Same (run of mine)	693D	C	1	7.82	33.06	44.94	14.18	.45	5.48	64.67	1.41	13.81	5.8	6,613	11,903	474 5	......
			2	......	35.89	48.73	15.38	.49	5.00	70.16	1.53	7.44	......	7,174	12,913		
			3	......	42.41	57.59	......	.58	5.91	82.91	1.80	8.80	......	8,477	15,259		
Same (screenings through ¾-inch screen).......	694D	C	1	2.32	37.02	47.08	13.58	.60	4.67	66.77	.61	13.77	......	6,913	12,443	474 5	......
			2	......	37.90	48.20	13.90	.61	4.51	68.36	.62	12.00	......	7,078	12,740		
			3	......	44.01	55.99	......	.72	5.23	79.40	.72	13.93	......	8,220	14,796		

Clealum, sec. 23, T. 20 N., R. 15 E., Cle Elum No. 1 mine, Roslyn bed (gangway, level 1 southwest, 100 feet from slope, 53 inches, 50½-inch cut).	9446	B	1	7.47	35.18	44.12	13.23	.42	......	......	......	......	2.3	......	......	474	865
			2	......	38.02	47.68	14.30	.45	......	......	......	......	......	......	......		
			3	......	44.36	55.64	......	.53	......	......	......	......	......	......	......		
Same (east end of gangway, level 1 southeast, 49½ inches, 48½-inch cut).	9447	B	1	9.94	33.50	44.74	11.82	.39	......	......	......	......	5.1	......	......	474	865
			2	......	37.20	49.68	13.12	.43	......	......	......	......	......	......	......		
			3	......	42.82	57.18	......	.49	......	......	......	......	......	......	......		
Same (gangway, level 1 southwest, between rooms 32 and 33, 4½ feet, 51½-inch cut).	9445	B	1	6.62	35.87	44.41	13.10	.35	......	......	......	......	2.7	......	......	474	865
			2	......	38.41	47.56	14.03	.37	......	......	......	......	......	......	......		
			3	......	44.68	55.32	......	.43	......	......	......	......	......	......	......		
Same (composite of Nos. 9445, 9446, and 9447)..	9467	B	1	7.90	34.62	44.80	12.68	.43	5.76	62.84	1.31	16.98	3.4	6,341	11,414	474	865
			2	......	37.59	48.64	13.77	.47	5.30	68.23	1.42	10.81	......	6,885	12,393		
			3	......	43.59	56.41	......	.54	6.15	79.13	1.65	12.53	......	7,985	14,373		
Half mile north of; Cle Elum No. 2 mine[a] (gangway, level 6 east, 49 inches, 44½-inch cut).	9472	B	1	8.00	34.50	45.46	12.04	.45	5.50	63.64	1.39	16.98	3.9	6,364	11,455	474	866
			2	......	37.50	49.41	13.09	.49	5.02	69.17	1.51	10.72	......	6,917	12,451		
			3	......	43.15	56.85	......	.56	5.78	79.59	1.74	12.33	......	7,959	14,326		
1 mile north of; Cle Elum No. 2 Extension mine[a] (gangway, level 8 east, 50 feet from rope slope, 4⅔ feet, middle bench excluded, 52½-inch cut).	9409	B	1	8.49	35.02	44.55	11.94	.43	5.52	63.35	1.43	17.33	2.8	6,351	11,432	474	866
			2	......	38.26	48.69	13.05	.47	5.00	69.23	1.56	10.69	......	6,940	12,492		
			3	......	44.00	56.00	......	.54	5.75	79.62	1.79	12.30	......	7,982	14,368		
Sec. 23, T. 20 N., R. 15 E., Cle Elum No. 3 Extension mine[a] (air course parallel to incline, just below level 6, 52½ inches, 4½-foot cut).	9408	B	1	8.52	34.88	44.45	12.15	.47	5.53	62.68	1.48	17.69	3.0	6,303	11,345	474	867
			2	......	38.13	48.59	13.28	.51	5.01	68.52	1.62	11.06	......	6,890	12,402		
			3	......	43.97	56.03	......	.59	5.78	79.01	1.87	12.75	......	7,945	14,301		
Half mile northwest of; sec. 22, T. 20 N., R. 15 E., 2½ miles southeast of Roslyn, Roslyn No. 7 mine, Roslyn bed (level 4 east, 330 feet beyond entrance to room 12, 52½ inches, 51½-inch cut).	9419	B	1	5.99	34.94	47.16	11.91	.34	......	......	......	......	2.0	......	......	474	867
			2	......	37.17	50.16	12.67	.36	......	......	......	......	......	......	......		
			3	......	42.56	57.44	......	.41	......	......	......	......	......	......	......		
Same (air course below gangway, level 4 west, 800 feet west of slope, 58½ inches, 55½-inch cut).	9420	B	1	6.30	35.77	46.33	11.60	.35	......	......	......	......	2.4	......	......	474	867
			2	......	38.18	49.44	12.38	.37	......	......	......	......	......	......	......		
			3	......	43.57	56.43	......	.42	......	......	......	......	......	......	......		
Same (gangway, level 2 east, 15 feet from barrier, 56½ inches, 53½-inch cut).	9421	B	1	7.01	34.49	44.88	13.62	.37	......	......	......	......	2.0	......	......	474	867
			2	......	37.09	48.26	14.65	.40	......	......	......	......	......	......	......		
			3	......	43.46	56.54	......	.47	......	......	......	......	......	......	......		
Same (room 40, level 2 west, 54½ inches, 53-inch cut).	9422	B	1	5.54	36.21	46.47	11.78	.33	......	......	......	......	1.5	......	......	474	867
			2	......	38.33	49.20	12.47	.35	......	......	......	......	......	......	......		
			3	......	43.79	56.21	......	.40	......	......	......	......	......	......	......		
Same (composite of Nos. 9419–9422)	9461	B	1	4.98	36.07	46.80	12.15	.36	5.60	66.00	1.29	14.60	2.0	6,610	11,898	474	867
			2	......	37.96	49.25	12.79	.38	5.31	69.46	1.36	10.70	......	6,956	12,521		
			3	......	43.53	56.47	......	.44	6.09	79.65	1.56	12.26	......	7,976	14,356		
1 mile north of; sec. 14, T. 20 N., R. 15 E., Summit mine (50 feet down slant from new tunnel, Roslyn bed, 4½ feet, 53-inch cut).	9403	B	1	7.66	35.17	45.16	12.01	.44	5.65	63.88	1.32	16.70	2.6	6,432	11,578	474	868
			2	......	38.09	48.90	13.01	.48	5.20	69.18	1.43	10.70	......	6,966	12,539		
			3	......	43.79	56.21	......	.55	5.98	79.53	1.64	12.30	......	8,008	14,415		
Roslyn, sec. 20, T. 20 N., R. 15 E., Roslyn No. 2 slope mine, Roslyn bed (250 feet up room 7, block 2, 55-inch cut).	9433	B	1	2.93	35.75	48.73	12.59	.37	......	......	......	......	.9	......	......	474	869
			2	......	36.83	50.20	12.97	.38	......	......	......	......	......	......	......		
			3	......	42.32	57.68	......	.44	......	......	......	......	......	......	......		
Same (level 6 west, beside barrier pillar, 54½ inches, 53½-inch cut).	9434	B	1	3.37	34.62	50.52	11.49	.36	......	......	......	......	1.8	......	......	474	869
			2	......	35.83	52.28	11.89	.37	......	......	......	......	......	......	......		
			3	......	40.66	59.34	......	.42	......	......	......	......	......	......	......		
Same (level 6 west, gangway between rooms 2 and 3, 54½ inches, 53-inch cut).	9435	B	1	3.34	35.95	48.45	12.26	.37	......	......	......	......	1.8	......	......	474	869
			2	......	37.19	50.13	12.68	.38	......	......	......	......	......	......	......		
			3	......	42.60	57.40	......	.44	......	......	......	......	......	......	......		
Same (10 feet below air course below level 8, 50½ inches, 49½-inch cut).	9436	B	1	3.08	35.94	47.68	13.30	.31	......	......	......	......	1.1	......	......	474	869
			2	......	37.08	49.20	13.72	.32	......	......	......	......	......	......	......		
			3	......	42.98	57.02	......	.37	......	......	......	......	......	......	......		

[a] Roslyn bed.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WASHINGTON—Continued.																	
KITTITAS COUNTY—continued.																	
Roslyn, Roslyn No. 2 mine—Continued.																	
Same (composite of Nos. 9433–9436)	9464		1	3.16	35.60	48.77	12.47	0.35	5.47	69.08	1.53	11.10	1.4	7,025	12,645	474	869
			2		36.76	50.36	12.88	.36	5.29	71.33	1.58	8.56		7,254	13,056		
			3		42.20	57.80		.41	6.07	81.87	1.81	9.84		8,325	14,985		
Sec. 20, T. 20 N., R. 15 E., Roslyn No. 4 mine, Roslyn bed (gangway of level 11 west, block 2, 60¾ inches, 58¾-inch cut).	9438	B	1	3.75	33.80	47.95	14.50	.35					2.2			474	869
			2		35.12	49.82	15.06	.36									
			3		41.35	58.65		.42									
Same (gangway of level 11 east, between rooms 3 and 4, 60½ inches, 56½-inch cut).	9437	B	1	3.66	35.85	48.21	12.28	.37					1.40			474	869
			2		37.21	50.04	12.75	.38									
			3		42.65	57.35		.44									
Same (composite of Nos. 9437 and 9438)	9465		1	3.68	34.33	48.59	13.40	.36	5.43	67.57	1.28	11.96	1.8	6,807	12,253	474	869
			2		35.64	50.45	13.91	.37	5.21	70.15	1.33	9.03		7,067	12,721		
			3		41.40	58.60		.43	6.05	81.49	1.54	10.49		8,209	14,776		
Same (2,000 feet from foot of shaft, 58½-inch bed, 54-inch cut).	2458	A	1	3.39	37.34	48.88	10.39	.33					1.3	7,137	12,847	332 18	869
			2		38.65	50.60	10.75	.34						7,387	13,297		
			3		43.30	56.70		.38						8,278	14,900		
One-fourth mile northeast of; sec. 9, T. 20 N., R. 15 E., Roslyn No. 2 mine, Roslyn bed (level 8, 15 feet west of east rope slope, 49½ inches, 47½-inch cut).	9442	B	1	4.47	36.98	46.54	12.01	.42					1.9			474	870
			2		38.71	48.72	12.57	.44									
			3		44.28	55.72		.50									
Same (level 7 west, entrance to room 80, 52¾-inch cut).	9443	B	1	4.42	35.41	47.15	13.02	.41					1.8			474	870
			2		37.05	49.33	13.62	.43									
			3		42.89	57.11		.50									
Same (level 10 east, 75 feet beyond room 43, 52½ inches, 51⅝-inch cut).	9444	B	1	5.41	36.50	46.16	11.93	.39					2.2			474	870
			2		38.59	48.80	12.61	.41									
			3		44.16	55.84		.47									
Same (about 6,000 feet from mouth of mine, 48¾-inch cut).	2457	A	1	3.36	36.15	46.58	13.91	.36					.9			332 18 23	870
			2		37.41	48.20	14.39	.37									
			3		43.70	56.30		.43									
Same (composite of Nos. 9442, 9443, and 9444)	9468		1	4.66	36.02	46.86	12.46	.38	5.87	66.86	1.34	13.09	2.0	6,801	12,242	474	870
			2		37.77	49.16	13.07	.40	5.61	70.13	1.41	9.38		7,134	12,841		
			3		43.45	56.55		.46	6.45	80.67	1.62	10.80		8,206	14,771		
Three-fourths mile southeast of; sec. 16, T. 20 N., R. 15 E., Roslyn No. 6 mine, Roslyn bed (east end of level 7, 55 inches, 53½-inch cut).	9441	B	1	4.50	36.38	46.53	12.59	.42					1.8			474	871
			2		38.09	48.73	13.18	.44									
			3		43.87	56.13		.51									

Same (east end of level 5, 57½ inches, 54½-inch cut).	9440	B	1	4.84	37.25	45.57	12.34	.38					2.1			474	871
			2		39.14	47.89	12.97	.40									
			3		44.97	55.03		.46									
Same (level 7, stump pillar between rooms 1 and 2, 54½ inches, 52-inch cut).	9439	B	1	4.45	36.73	46.36	12.46	.41					1.9			474	871
			2		38.44	48.52	13.04	.43									
			3		44.20	55.80		.49									
Same (composite of Nos. 9439, 9440, and 9441)	9466		1	4.65	36.07	46.75	12.53	.40	5.37	67.42	1.30	12.98	1.9	6,753	12,155	474	871
			2		37.83	49.03	13.14	.42	5.09	70.71	1.36	9.28		7,883	12,749		
			3		43.55	56.45		.48	5.86	81.41	1.57	10.68		8,155	14,679		
1 mile northeast of; sec. 10, T. 20 N., R. 15 E., A. & E. mine, 160 feet up room 9, Roslyn bed (52½ inches, 51½-inch cut).	9402	B	1	5.70	36.95	44.66	12.69	.45	5.47	65.55	1.28	14.56	2.5	6,630	11,934	474	872
			2		39.18	47.36	13.46	.48	5.13	69.51	1.36	10.06		7,030	12,654		
			3		45.27	54.73		.55	5.93	80.32	1.57	11.63		8,123	14,621		
1½ miles southeast of; sec. 22, T. 20 N., R. 15 E., Roslyn No. 5 mine, Roslyn bed (barrier pillar, 10 feet above level 2 gangway, 4¾ feet, 56½-inch cut).	9423	B	1	5.43	35.68	46.92	11.97	.36					1.6			474	872
			2		37.72	49.62	12.66	.38									
			3		43.19	56.81		.44									
Same (level 3 west, entrance to room 50, 63½ inches, 62½-inch cut).	9424	B	1	4.21	35.32	47.16	13.31	.37					1.4			474	872
			2		36.87	49.23	13.90	.39									
			3		42.82	57.18		.45									
Same (air course below level 4, about 30 feet west of slope, 59¼ inches, 58¾-inch cut).	9425	B	1	4.96	34.93	49.56	10.55	.39					1.5			474	872
			2		36.75	52.15	11.10	.41									
			3		41.34	58.66		.46									
Same (gangway 3 east, entrance to room 42, 56¾ inches, 55¾-inch cut).	9426	B	1	5.24	36.60	46.42	11.74	.38					1.7			474	872
			2		38.62	48.99	12.39	.40									
			3		44.08	55.92		.46									
Same (barrier pillar, gangway of level 1 west, 56½ inches, 53½-inch cut).	9427	B	1	4.70	36.89	47.40	11.01	.35					1.9			474	872
			2		38.71	49.74	11.55	.37									
			3		43.76	56.24		.42									
Same (composite of Nos. 9423–9427)	9462	B	1	4.95	35.96	47.32	11.77	.40	5.54	67.68	1.27	13.34	1.6	6,808	12,254	474	872
			2		37.83	49.79	12.38	.42	5.25	71.21	1.34	9.40		7,163	12,893		
			3		43.18	56.82		.48	5.99	81.27	1.53	10.73		8,175	14,715		
2½ miles northwest of; sec. 6, T. 20 N., R. 15 E., Patrick-McKay mine, Roslyn bed (50 feet above level 1 east, 48½ inches, 47½-inch cut.	9416	B	1	3.02	36.96	49.56	10.46	.38					1.1			474	873
			2		38.11	51.10	10.79	.39									
			3		42.72	57.28		.44									
Same (end of gangway, level 1 east, about 1,000 feet from rock tunnel, 50½ inches, 49½-inch cut).	9417	B	1	2.95	36.20	49.33	11.52	.38					1.1			474	873
			2		37.30	50.83	11.87	.39									
			3		42.32	57.68		.44									
Same (level 1 west, entrance to room 18, 54¼ inches, 53¼-inch cut).	9418	B	1	3.26	35.96	48.83	11.95	.37					1.1			474	873
			2		37.17	50.48	12.35	.38									
			3		42.41	57.59		.43									
Same (composite of Nos. 9416–9418)	9460		1	3.08	35.60	50.05	11.27	.41	5.63	70.18	1.44	11.07	1.1	7,138	12,848	474	873
			2		36.73	51.64	11.63	.42	5.46	72.41	1.49	8.59		7,365	13,257		
			3		41.56	58.44		.48	6.18	81.94	1.69	9.71		8,334	15,002		
Same (34½-inch cut); lower bed (40½ inches)	9407	B	1	4.10	33.01	46.46	16.43	.80	5.29	65.09	1.21	11.18	2.5	6,573	11,831	474	873
			2		34.42	48.45	17.13	.83	5.04	67.87	1.26	7.87		6,854	12,337		
			3		41.53	58.47		1.00	6.07	81.90	1.52	9.51		8,270	14,886		
Same (lump coal)	3098	C	1	3.16	36.49	48.09	12.26	.38	5.15	69.35	1.24	11.62	1.3	6,992	12,586	332	
			2		37.68	49.66	12.66	.39	4.96	71.62	1.28	9.09		7,220	12,996		
			3					.45	5.68	81.99	1.47	10.41		8,267	14,881		
			4						5.70	82.38	1,47	10.45		8,294	14.929		
1½ miles west of; sec. 7, T. 20 N., R. 15 E., Roslyn No. 3 mine, Roslyn bed (entrance to room 48, 4½ feet, 50-inch cut).	9428	B	1	3.42	36.34	49.53	10.71	.40					1.3			474	874
			2		37.63	51.28	11.09	.41									
			3		42.32	57.68		.46									

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WASHINGTON—Continued.																	
KITTITAS COUNTY—continued.																	
Roslyn, Roslyn No. 3 mine—Continued.																	
Same (level 6 gangway, between rooms 6 and 7, 50 inches, 49-inch cut).	9429	B	1	3.21	36.51	49.19	11.09	0.37	......	......	......	......	1.1	......	......	474	874
			2	......	37.72	50.82	11.46	.38	......	......	......	......	......	......	......		
			3	......	42.60	57.40	......	.43	......	......	......	......	......	......	......		
Same (150 feet up slope from base of shaft, 52¼ inches, 51¾-inch cut).	9430	B	1	3.33	35.21	51.08	10.38	.33	......	......	......	......	1.1	......	......	474	874
			2	......	36.42	52.84	10.74	.34	......	......	......	......	......	......	......		
			3	......	40.80	59.20	......	.38	......	......	......	......	......	......	......		
Same (room 12, battery 3, level 1 west, 100 feet from gangway, 62 inches, 61¼-inch cut).	9431	B	1	3.18	36.09	46.69	14.04	.39	......	......	......	......	1.0	......	......	474	874
			2	......	37.28	48.22	14.50	.40	......	......	......	......	......	......	......		
			3	......	43.60	56.40	......	.47	......	......	......	......	......	......	......		
Same (room 3, battery 4, level 1 west, 150 feet from gangway, 49½ inches, 48½-inch cut).	9432	B	1	3.14	36.42	49.81	10.63	.33	......	......	......	......	1.0	......	......	474	874
			2	......	37.60	51.42	10.98	.34	......	......	......	......	......	......	......		
			3	......	42.24	57.76	......	.38	......	......	......	......	......	......	......		
Same (composite of Nos. 9428–9432)............	9463	......	1	3.08	35.60	49.95	11.37	.40	5.53	70.29	1.54	10.87	1.1	7,146	12,863	474	874
			2	......	36.73	51.54	11.73	.41	5.36	72.53	1.59	8.38	......	7,373	13,271		
			3	......	41.61	58.39	......	.46	6.07	82.17	1.80	9.51	......	8,352	15,034		
2½ miles west of, Busy Bee mine, 4½-foot bed, 37½-inch cut.	9406	B	1	3.30	36.22	51.54	8.94	.41	......	......	......	......	1.4	7,430	13,374	474	875
			2	......	37.46	53.30	9.24	.42	......	......	......	......	......	7,683	13,829		
			3	......	41.27	58.73	......	.46	......	......	......	......	......	8,465	15,237		
LEWIS COUNTY.																	
Centralia, 1½ miles northeast of; SW. ¼ SW. ¼ sec. 34, T. 14 S., R. 2 W., Richmond mine, Potlatch bed, 600 feet in 92½-inch cut.	*9177	B	1	26.71	32.79	32.09	8.41	1.52	6.60	45.85	.79	36.83	14.9	4,459	8,026	474	876
			2	......	44.74	43.79	11.47	2.07	4.95	62.56	1.08	17.87	......	6,084	10,951		
			3	......	50.54	49.46	......	2.34	5.59	70.68	1.22	20.17	......	6,872	12,370		
Chehalis, 1 mile northeast; Superior mine No. 1, 10 feet east of rock tunnel to bed, 52-inch cut.	*9942	B	1	27.17	33.80	28.11	10.92	.33	6.27	43.88	.80	37.80	14.3	4,205	7,569	474	876
			2	......	46.41	38.60	14.99	.45	4.46	60.25	1.10	18.75	......	5,774	10,393		
			3	......	54.59	45.41	......	.53	5.25	70.87	1.29	22.06	......	6,792	12,226		
½ mile up track from depot and to the north; Superior mine No. 2, 50 feet up No. 5 chute, 115½-inch cut.	*9941	B	1	30.50	34.94	29.61	4.95	1.25	6.89	45.48	.75	40.68	17.1	4,408	7,934	474	877
			2	......	50.28	42.60	7.12	1.80	5.04	65.44	1.08	19.52	......	6,343	11,417		
			3	......	54.14	45.86	......	1.94	5.43	70.46	1.16	21.01	......	6,830	12,294		

1 mile northeast of, on logging road; Twin City mine, face of gangway, 300 feet east of slope, on first level, 69½-inch cut.	*9945	B	1	30.61	31.77	27.88	9.74	.27	6.56	41.82	.73	40.88	19.3	4,016	7,229	474	877
			2	......	45.78	40.18	14.04	.39	4.55	60.26	1.05	19.71	......	5,787	10,417		
			3	......	53.26	46.74	......	.45	5.29	70.10	1.22	22.94	......	6,732	12,118		
3 miles east of, on logging road, Chehalis mine, stump pillar, 250 feet from entrance, 67½-inch cut.	*9944	B	1	29.15	34.66	28.52	7.67	1.77	6.69	45.28	.74	37.85	15.7	4,414	7,945	477	878
			2	......	48.92	40.25	10.83	2.50	4.87	63.91	1.04	16.85	......	6,230	11,214		
			3	......	54.86	45.14	......	2.80	5.46	71.68	1.17	18.89	......	6,987	12,577		
4 miles east of, on logging road; Sheldon mine, 250 feet east of slope and 40 feet up pitch, 65½-inch cut.	*9943	B	1	29.88	33.95	30.42	5.75	.58	6.98	45.50	.85	40.34	15.2	4,406	7,931	474	878
			2	......	48.42	43.39	8.19	.83	5.22	64.89	1.21	19.66	......	6,283	11,309		
			3	......	52.74	47.26	......	.90	5.69	70.68	1.32	21.41	......	6,843	12,318		
Glenavon, 4½ miles southwest of; sec. 14, T. 13 N., R. 4 E., Luthkens prospect, in 60-foot entry, 4-foot cut.	6488	B	1	8.51	27.33	44.81	19.35	.27	......	......	......	......	6.0	5,832	10,497	474	879
			2	......	29.87	48.98	21.15	.30	......	......	......	......	......	6,374	11,473		
			3	......	37.88	62.12	......	.38	......	......	......	......	......	8,084	14,551		
Same (Hofstetter prospect, in 26-foot entry, 42-inch cut).	6496	B	1	8.11	4.57	62.37	24.95	.30	......	......	......	......	5.8	5,457	9,823	474	879
			2	......	4.97	67.88	27.15	.33	......	......	......	......	......	5,939	10,690		
			3	......	6.82	93.18	......	.45	......	......	......	......	......	8,152	14,674		
5 miles west of; NE¼ sec. 10, T. 13 N., R. 4 E., 72-inch cut.	6490	B	1	13.47	21.72	49.59	15.22	.35	......	......	......	......	8.7	5,337	9,607	474	879
			2	......	25.10	57.31	17.59	.40	......	......	......	......	......	6,167	11,101		
			3	......	30.46	69.54	......	.49	......	......	......	......	......	7,483	13,469		
Ladd, sec. 13, T. 14 N., R. 4 E., East Creek Ladd mine (50 feet in, upper water level, No. 4 bed, face of gangway, 49½-inch cut).	9879	B	1	8.57	32.56	34.38	24.49	.85	......	......	......	......	5.2	5,134	9,241	474	880
			2	......	35.61	37.61	26.78	.93	......	......	......	......	......	5,615	10,107		
			3	......	48.63	51.37	......	1.27	......	......	......	......	......	7,668	13,802		
Same (250 feet in, No. 3 bed, lower bench, 42½-inch cut).	9880	B	1	7.23	34.35	37.81	20.61	.53	......	......	......	......	4.4	5,615	10,109	474	880
			2	......	37.03	40.75	22.22	.57	......	......	......	......	......	6,052	10,894		
			3	......	47.61	52.39	......	.73	......	......	......	......	......	7,781	14,006		
Same (250 feet in, No. 3 bed, upper bench, 1½-foot cut).	9881	B	1	6.29	34.65	37.64	21.42	.83	......	......	......	......	3.3	5,574	10,033	474	880
			2	......	36.98	40.16	22.86	.89	......	......	......	......	......	5,948	10,706		
			3	......	47.94	52.06	......	1.15	......	......	......	......	......	7,710	13,878		
Same (60 feet up chute 62, level 1, No. 2 bed, 47 inches, 3½-foot cut).	9882	B	1	4.08	26.93	51.68	17.31	1.26	4.87	66.51	1.31	8.74	2.7	6,589	11,860	474	880
			2	......	28.07	53.88	18.05	1.31	4.61	69.34	1.37	5.32	......	6,869	12,364		
			3	......	34.25	65.75	......	1.60	5.63	84.62	1.67	6.48	......	8,382	15,088		
Half mile southwest of; sec. 13, T. 14 N., R. 4 E., open cut, Watkins prospect, No. 3 bed, 49-inch cut.	6494	B	1	5.57	33.95	40.39	20.09	.61	......	......	......	......	2.3	5,775	10,395	474	880
			2	......	35.95	42.77	21.28	.65	......	......	......	......	......	6,116	11,009		
			3	......	45.67	54.33	......	.83	......	......	......	......	......	7,769	13,984		
Same, No. 4 bed, 50½-inch cut..............	6492	B	1	6.44	31.17	40.14	22.25	.88	......	......	......	......	2.9	5,468	9,842	474	880
			2	......	33.31	42.91	23.78	.94	......	......	......	......	......	5,844	10,519		
			3	......	43.70	56.30	......	1.23	......	......	......	......	......	7,667	13,801		
Sec. 12, T. 14 N., R. 4 E., Ladd mine, No. 2 bed.....	6491	B	1	10.70	25.85	47.10	16.35	.84	......	......	......	......	8.9	5,867	10,561	474	880
			2	......	28.95	52.74	18.31	.94	......	......	......	......	......	6,570	11,826		
			3	......	35.44	64.56	......	1.15	......	......	......	......	......	8.042	14,476		
Same (49½-inch cut)...........................	6493	B	1	4.41	26.57	51.50	17.52	1.05	......	......	......	......	2.4	6,332	11,398	474	880
			2	......	27.79	53.88	18.33	1.10	......	......	......	......	......	6,624	11,923		
			3	......	34.03	65.97	......	1.35	......	......	......	......	......	8,110	14,598		
2½ miles southwest of; sec. 26, T. 14 N., R. 4 E., Nisqually prospect mine, bed not known; possibly No. 3 Ladd, 20½-inch cut.	6489	B	1	9.10	27.83	33.21	29.86	.63	......	......	......	......	5.1	4,475	8,055	474	881
			2	......	30.62	36.53	32.85	.69	......	......	......	......	......	4,923	8,861		
			3	......	45.60	54.40	......	1.03	......	......	......	......	......	7,331	13,196		
5½ miles southwest of; sec. 34, T. 14 N., R. 4 E., Snow prospect, 69-inch cut.	6495	B	1	11.18	31.24	47.14	10.44	.56	......	......	......	......	8.5	6,197	11,155	474	881
			2	......	35.17	53.08	11.75	.63	......	......	......	......	......	6,976	12,557		
			3	......	39.85	60.15	......	.71	......	......	......	......	......	7,905	14,229		
Littell, 4 miles northwest from; Crescent mine, gangway between the 17th and 19th chutes, 64½-inch cut.	9940	B	1	32.15	31.87	27.30	8.68	2.97	......	......	......	......	19.1	3,968	7,142	474	882
			2	......	46.97	40.24	12.79	4.36	......	......	......	......	......	5,848	10,526		
			3	......	53.86	46.14	......	5.00	......	......	......	......	......	6,706	12,071		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WASHINGTON—Continued.																	
LEWIS COUNTY—continued.																	
Longmire Springs, 12 miles east of; SE. ¼ sec. 1, T. 14 N., R. 10 E., Weikel mine, 90 feet in, No. 6 bed, 3½-foot cut.	9091	B	1	4.2	10.5	51.2	34.05	0.48	3.08	53.61	0.87	7.91	3.5	4,935	8,885	474	882
			2	....	11.0	53.4	35.56	.50	2.73	55.97	.91	4.33	....	5,155	9,275		
			3	....	17.0	83.0	....	.78	4.24	86.85	1.41	6.72	....	8,000	14,400		
Same, surface prospect, No. 4 bed, 1-foot cut	9092	B	1	2.9	8.5	82.0	6.6	.80	....	....	....	....	2.1	7,640	13,750	474	883
			2	....	9.0	84.2	6.8	.80	....	....	....	....	....	7,870	14,170		
			3	....	9.5	90.5	....	.85	....	....	....	....	....	8,440	15,200		
12 miles east of; SE. ¼ NW. ¼ sec. 13, T. 14 N., R. 10 E., Davis prospect, No. 6 (or Primrose) bed (middle bench, 17-inch cut).	9097	B	1	5.1	8.5	36.7	49.7	1.00	....	....	....	....	3.7	3,325	5,985	474	883
			2	....	9.0	38.6	52.4	1.05	....	....	....	....	....	3,505	6,310		
			3	....	19.0	81.0	....	2.20	....	....	....	....	....	7,370	13,260		
Same (lower bench, 59-inch cut)	9099	B	1	3.9	7.4	71.2	17.53	.55	3.35	71.41	1.30	5.86	3.1	6,615	11,900	474	883
			2	....	7.5	74.2	18.25	.57	3.03	74.33	1.35	2.47	....	6,885	12,390		
			3	....	9.5	90.5	....	.70	3.71	90.92	1.65	3.02	....	8,420	15,150		
Same (best coal of lower bench, 6-inch cut)	9100	B	1	2.7	7.0	79.6	10.67	.62	3.48	79.22	1.32	4.69	2.0	7,420	13,350	474	883
			2	....	7.5	81.5	10.96	.64	3.27	81.39	1.36	2.38	....	7,620	13,720		
			3	....	8.5	91.5	....	.72	3.67	91.41	1.53	2.67	....	8,560	15,410		
Same (upper bench, 32½-inch cut)	9101	B	1	3.6	8.5	59.5	28.40	.66	3.17	60.00	.99	6.78	2.8	5,580	10,045	474	883
			2	....	8.5	62.0	29.46	.68	2.87	62.23	1.03	3.73	....	5,790	10,420		
			3	....	12.5	87.5	....	.96	4.07	88.20	1.46	5.31	....	8,205	14,770		
Same (bony layer above lower bench, 25-inch cut).	9102	B	1	3.9	8.5	52.2	35.4	.65	....	....	....	....	3.0	4,820	8,855	474	883
			2	....	8.9	54.2	36.9	.70	....	....	....	....	....	5,015	9,030		
			3	....	14.0	86.0	....	1.10	....	....	....	....	....	7,945	14,310		
Same, Summit Creek prospect, 35 feet in gangway, 33½-inch cut.	9098	B	1	3.7	7.5	47.6	41.16	.70	2.64	47.64	.87	6.99	2.9	4,440	7,990	474	883
			2	....	7.5	49.8	42.74	.73	2.31	49.47	.91	3.84	....	4,610	8,300		
			3	....	13.5	86.5	....	1.27	4.03	86.39	1.59	6.72	....	8,050	14,490		
Mendota, sec. 3, T. 14 N., R. 1 W., Mendota mine (80 feet from level 1 north, room 2, 111½-inch cut).	*10324	B	1	20.55	33.46	33.68	12.31	1.28	6.24	48.91	.82	30.44	11.5	4,828	8,690	474	884
			2	....	42.12	42.39	15.49	1.61	4.98	61.56	1.03	15.33	....	6,077	10,939		
			3	....	49.84	50.16	....	1.91	5.89	72.84	1.22	18.14	....	7,191	12,944		
Same (foot of slope, 850 feet from portal, 118½-inch cut).	*10323	B	1	19.25	33.84	34.29	12.62	1.17	5.99	50.00	.83	29.39	9.6	4,918	8,852	474	884
			2	....	41.91	42.46	15.63	1.45	4.77	61.92	1.03	15.20	....	6,090	10,962		
			3	....	49.67	50.33	....	1.72	5.65	73.37	1.22	18.04	....	7,218	12,992		
Sulphur Springs, 6 miles east of; SE. ¼ sec. 7, T. 13 N., R. 10 E., 2 miles east of Cowlitz River, Barnett surface prospect (3-foot cut).	9090	B	1	7.4	5.0	51.8	35.8	.75	....	....	....	....	5.6	4,555	8,200	474	885
			2	....	5.0	56.4	38.6	.80	....	....	....	....	....	4,920	8,850		
			3	....	8.5	91.5	....	1.30	....	....	....	....	....	8,010	14,420		

PIERCE COUNTY.																	
Ashford, sec. 22, T. 15 N., R. 6 E., Mashel mine, end of gangway, 4,400 feet from entrance (lower bench, 61-inch cut).	9884	B	1	4.11	24.38	44.75	26.76	.44	4.31	58.16	1.39	8.94	2.6	5,719	10,294	474	885
			2		25.43	46.66	27.91	.46	4.02	60.66	1.45	5.50		5,964	10,735		
			3		35.28	64.72		.64	5.58	84.15	2.01	7.62		8,273	14,891		
Same (upper bench, 10 feet 5½ inches, 9-foot 9½-inch cut).	9885	B	1	4.02	22.00	35.94	38.04	.68	3.69	46.95	1.27	9.37	2.4	4,671	8,408	474	886
			2		22.92	37.45	39.63	.71	3.38	48.92	1.32	6.04		4,867	8,761		
			3		37.97	62.03		1.18	5.60	81.04	2.19	9.99		8,062	14,512		
7 miles east of, sec. 20, T. 15 N., R. 7 E., Longmire prospect (39-inch cut).	6486	B	1	9.41	12.78	51.31	26.50	.37					7.0	5,251	9,452	474	886
			2		14.11	56.64	29.25	.41						5,797	10,435		
			3		19.94	80.06		.58						8,193	14,747		
Burnett, sec. 16, T. 19 N., R. 6 E., Burnett mine, level 2 (washed, still wet, from bunkers and car).	9886	B	1	7.72	34.36	46.57	11.35	.56	5.69	67.50	1.88	13.02	6.1	6,838	12,308	474	886
			2		37.24	50.47	12.29	.61	5.23	73.15	2.04	6.68		7,410	13,338		
			3		42.46	57.54		.70	5.96	83.40	2.33	7.61		8,448	15,206		
Same (lump, from bunkers)	9887	B	1	3.25	36.79	46.81	13.15	.41	5.31	68.77	1.95	10.41	1.4	6,961	12,530	474	887
			2		38.03	48.38	13.59	.42	5.12	71.08	2.02	7.77		7,195	12,951		
			3		44.01	55.99		.49	5.93	82.25	2.34	8.99		8,327	14,989		
Same (north end of gangway, 1,650 feet north on rock tunnel, No. 3 bed, lower bench, 67-inch cut).	9888	B	1	4.65	35.23	46.93	13.19	.37	5.36	67.64	1.93	11.51	2.7	6,818	12,272	474	887
			2		36.95	49.22	13.83	.39	5.08	70.94	2.02	7.74		7,150	12,870		
			3		42.88	57.12		.45	5.90	82.33	2.34	8.98		8,298	14,936		
Same (position and bed same as No. 9888, upper bench, 18-inch cut).	9889	B	1	3.61	36.83	45.47	14.09	.38	5.36	67.76	1.75	10.66	1.8	6,872	12,370	474	887
			2		38.21	47.17	14.62	.39	5.15	70.29	1.82	7.73		7,129	12,832		
			3		44.75	55.25		.46	6.03	82.32	2.13	9.06		8,349	15,028		
Same (15 feet above gangway, manway south of rock tunnel, No. 3 bed, 6 feet, 4½-foot cut).	9890	B	1	3.20	35.02	49.32	12.46	.38	5.28	70.74	1.97	9.17	1.3	7,066	12,719	474	887
			2		36.18	50.96	12.86	.39	5.08	73.08	2.04	6.55		7,300	13,140		
			3		41.52	58.48		.45	5.83	83.87	2.34	7.51		8,378	15,080		
Same (crosscut 1, 2,200 feet south of rock tunnel, No. 2, bed 50½ inches, 3½-foot cut).	9891	B	1	3.69	36.04	52.14	8.13	.76	5.56	73.89	2.00	9.66	2.4	7,540	13,572	474	886
			2		37.42	54.14	8.44	.79	5.35	76.72	2.08	6.62		7,829	14,092		
			3		40.87	59.13		.86	5.84	83.79	2.27	7.24		8,551	15,392		
Carbonado, sec. 4, T. 18 N., R. 6 E., Carbon Hill mines, west side of syncline, chute No. 11, 3,000 feet from tipple at Carbon River (No. 1 84½-inch bed, 63-inch cut).	2460	B	1	4.06	31.16	50.19	14.59	.35					2.4			474	888
			2		32.48	52.31	15.21	.36		38.31	61.69	.42					
			3		38.31	61.69		.42									
Same (1,000 feet from slope, on level 700 feet below the river near a small fault, Wingate bed, 59-inch cut).	2459	B	1	3.47	39.87	50.41	6.25	.86		44.16	55.84	.95	1.4			474	890
			2		41.30	52.23	6.47	.89									
			3		44.16	55.84		.95									
Same (south end of gangway, No. 3 coking bed, lower bench, 103 inches, 6-foot cut).	9555	B	1	3.81	26.60	49.33	20.26	.39	5.01	63.85	1.93	8.56	3.0	6,399	11,518	474	889
			2		27.65	51.29	21.06	.41	4.77	66.38	2.01	5.37		6,652	11,974		
			3		35.03	64.97		.52	6.04	84.09	2.55	6.80		8,427	15,169		
Same (end of gangway on water level, 400 feet from entrance, No. 9 bed, 43-inch cut).	9556	B	1	3.74	29.00	51.76	15.50	.52	5.08	67.37	2.13	9.40	2.4	6,739	12,130	474	888
			2		30.13	53.77	16.10	.54	4.84	69.99	2.21	6.32		7,001	12,602		
			3		35.91	64.09		.64	5.77	83.42	2.63	7.54		8,344	15,019		
Same (end of right gangway, No. 2 coking bed, 8 feet 9¾ inches, 101¾-inch cut).	9557	B	1	3.84	27.05	53.74	15.37	.39	4.99	68.20	2.02	9.03	2.8	6,852	12,334	474	889
			2		28.13	55.89	15.98	.41	4.74	70.92	2.10	5.85		7,125	12,825		
			3		33.48	66.52		.49	5.64	84.41	2.50	6.96		8,480	15,264		
Same (first crosscut above level 3, 20 feet off slope to north, No. 6 mine, Wingate bed, 61-inch cut).	9558	B	1	4.00	36.85	52.74	6.41	.52	5.84	74.02	2.16	11.05	2.0	7,380	13,284	474	890
			2		38.39	54.93	6.68	.54	5.63	77.11	2.25	7.79		7,688	13,838		
			3		41.14	58.86		.58	6.03	82.63	2.41	8.35		8,238	14,828		
Same (from bins and railroad cars, over 2-inch screen, washed and still wet, Douty coal).	9559	C	1	5.83	30.59	49.93	13.65	.42	5.34	66.54	1.92	12.13	4.6	6,707	12,073	474	
			2		32.48	53.03	14.49	.45	4.98	70.66	2.04	7.38		7,122	12,820		
			3		37.99	62.01		.53	5.82	82.64	2.39	8.62		8,329	14.993		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WASHINGTON—Continued.																	
PIERCE COUNTY—continued.																	
Carbonado, Carbon Hill mines—Continued.																	
Same (samples from north and south ends of level 3 gangway mixed, Wingate bed, 54-inch cut).	9560	B	1	2.74	36.31	52.83	8.12	0.49	5.80	74.07	2.10	9.42	1.5	7,521	13,538	474	890
			2	......	37.33	54.32	8.35	.50	5.56	76.16	2.16	7.17	......	7,733	13,919		
			3	......	40.73	59.27	......	.55	6.18	83.10	2.36	7.81	......	8,437	15,187		
Same (200 feet up chute 14, No. 4 bed, 82½ inches, 64½-inch cut).	9562	B	1	3.19	34.84	51.54	10.43	.32	5.48	72.54	1.89	9.34	2.0	7,340	13,212	474	890
			2	......	35.99	53.24	10.77	.33	5.30	74.93	1.95	6.72	......	7,582	13,648		
			3	......	40.33	59.67	......	.37	5.94	83.97	2.19	7.53	......	8,497	15,295		
Same (over 3-inch bar screen, Wingate bed)...	9563	C	1	3.07	37.17	51.81	7.95	.44	......	......	......	......	1.8	7,553	13,595	474	......
			2	......	38.35	53.45	8.20	.45	......	......	......	......	......	7,792	14,026		
			3	......	41.77	58.23	......	.49	......	......	......	......	......	8,488	15,278		
Same (end of gangway on water level 3,200 feet south of portal, No. 5 bed, 48½-inch cut).	9564	B	1	3.60	29.73	50.29	16.38	.56	4.94	65.52	2.10	10.50	1.9	6,504	11,707	474	890
			2	......	30.84	52.17	16.99	.58	4.71	67.96	2.18	7.58	......	6,747	12,145		
			3	......	37.15	62.85	......	.70	5.67	81.87	2.63	9.13	......	8,128	14,630		
Same (lump, from car, Wingate bed)..........	9566	C	1	3.18	34.52	51.56	10.74	.69	5.32	71.46	1.97	9.82	1.7	7,251	13,052	474	......
			2	......	35.65	53.26	11.09	.71	5.13	73.80	2.03	7.24	......	7,489	13,480		
			3	......	40.10	59.90	......	.80	5.77	83.00	2.28	8.15	......	8,423	15,161		
Same (end of rock tunnel, No. 1 coking bed, 29 inches, 2½-foot cut).	9569	B	1	2.83	28.07	50.77	18.33	3.22	4.78	65.62	1.89	6.16	2.2	6,686	12,037	474	888
			2	......	28.89	52.25	18.86	3.31	4.59	67.53	1.94	3.77	......	6,881	12,386		
			3	......	35.60	64.40	......	4.08	5.66	83.22	2.39	4.65	......	8,479	15,262		
Same (40 feet above gangway, 500 feet from entrance, No. 11 bed, 53 inches, 37½-inch cut).	9570	B	1	4.45	28.45	47.59	19.51	.39	4.85	62.34	1.78	11.13	2.7	6,261	11,270	474	890
			2	......	29.78	49.80	20.42	.41	4.56	65.25	1.86	7.50	......	6,553	11,795		
			3	......	37.42	62.58	......	.52	5.73	81.99	2.34	9.42	......	8,234	14,821		
Same (Douty lump from bins and cars, still moist).	9571	C	1	3.53	30.58	48.18	17.71	.40	......	......	......	......	2.3	6,460	11,628	474	......
			2	......	31.70	49.94	18.36	.41	......	......	......	......	......	6,697	12,055		
			3	......	38.83	61.17	......	.50	......	......	......	......	......	8,203	14,764		
Same (level 1, 100 feet up chute 13, 600 feet north of bottom of electric slope, No. 1 bed, 88 inches, 77-inch cut).	9572	B	1	3.38	32.21	49.53	14.88	.45	5.33	67.24	2.00	10.10	1.8	6,804	12,247	474	888
			2	......	33.34	51.26	15.40	.47	5.12	69.59	2.07	7.35	......	7,042	12,676		
			3	......	39.41	60.59	......	.56	6.05	82.26	2.45	8.68	......	8,324	14,983		
Same (crosscut 10 between chutes 56 and 57, level 2, Wingate bed, 49-inch cut).	9601	B	1	2.85	32.84	53.66	10.65	1.11	5.38	70.92	1.80	10.14	1.1	7,142	12,856	474	890
			2	......	33.80	55.24	10.96	1.14	5.21	73.00	1.85	7.84	......	7,351	13,232		
			3	......	37.96	62.04	......	1.28	5.85	81.99	2.08	8.80	......	8,256	14,861		
Same (main entry 3 north, 1,400 feet west, 89-inch cut).	552D	A	1	2.90	30.94	50.12	16.04	.46	......	......	......	......	1.8	6,907	12,433	474	889
			2	......	31.87	51.61	16.52	.47	......	......	......	......	......	7,117	12,810		
			3	......	38.18	61.82	......	.56	......	......	......	......	......	8,525	15,345		

Same (car sample)	787D	C	1	4.66	29.07	50.31	15.96	.45	4.95	67.18	2.11	9.35	3.3	6,740	12,132	474	......
			2	....	30.49	52.77	16.74	.47	4.65	70.47	2.21	5.46	....	7,070	12,726		
			3	....	36.62	63.38	....	.56	5.59	84.64	2.65	6.56	....	8,491	15,285		
Same (from cars, washed, still wet)	9561	C	1	3.70	32.36	51.49	12.45	.76	5.12	69.16	2.03	10.48	2.5	7,028	12,650	474	......
			2	....	33.60	53.47	12.93	.79	4.89	71.82	2.11	7.46	....	7,298	13,136		
			3	....	38.59	61.41	....	.91	5.62	82.49	2.42	8.56	....	8,382	15,088		
Same (south end of gangway, No. 3 coking bed, upper bench, 17-inch cut).	9565	B	1	4.18	29.99	52.39	13.44	.30	5.10	70.13	1.88	9.15	3.5	7,034	12,661	474	889
			2	....	31.30	54.67	14.03	.31	4.84	73.19	1.96	5.67	....	7,341	13,214		
			3	....	36.41	63.59	....	.36	5.63	85.12	2.28	6.61	....	8,538	15,368		
Same (from bunkers and cars, washed, Wingate bed).	9567	C	1	6.03	30.82	51.09	12.06	.82	5.34	67.73	2.03	12.02	4.7	6,843	12,317	474	......
			2	....	32.80	54.37	12.83	.87	4.97	72.08	2.16	7.09	....	7,282	13,108		
			3	....	37.63	62.37	....	1.00	5.70	82.69	2.48	8.13	....	8,354	15,037		
Same, Carbonado No. 4 N mine; rib in chute 16, two blocks below 14th counter, Wilkeson bed.	10573	A	1	3.59	35.28	47.13	14.00	.31	....	....	....	....	2.2	....	....	......	892
			2	....	36.59	48.89	14.52	.32	....	....	....	....	....	....	....		
			3	....	42.81	57.19	....	.37	....	....	....	....	....	....	....		
Same	10574	A	1	3.79	34.59	46.65	14.97	.35	....	....	....	....	2.5	....	....	......	892
			2	....	35.95	48.49	15.56	.36	....	....	....	....	....	....	....		
			3	....	42.58	57.42	....	.43	....	....	....	....	....	....	....		
Same (composite of Nos. 10573 and 10574)	10575	A	1	4.04	34.39	46.87	14.70	.34	5.55	67.40	1.89	10.12	2.4	6,800	12,240	......	892
			2	....	35.84	48.84	15.32	.35	5.31	70.24	1.97	6.81	....	7,086	12,755		
			3	....	42.32	57.68	....	.41	6.27	82.95	2.33	8.04	....	8,368	15,062		
Fairfax, ¼ mile south of; Fairfax mine (Blacksmith bed, from bunkers, washed).	9574	B	1	3.52	22.57	64.36	9.55	.44	5.02	76.17	2.05	6.77	2.9	7,511	11,520	474	893
			2	....	23.39	66.71	9.90	.46	4.80	78.95	2.12	3.77	....	7,785	14,013		
			3	....	25.96	74.04	....	.51	5.33	87.63	2.35	4.18	....	8,640	15,552		
Same (south end of water level gangway, 75 feet from tunnel, No. 7 bed, 8½ feet, 8-foot cut).	9608	B	1	2.82	18.48	45.44	33.26	.47	3.90	53.81	1.53	7.03	2.2	5,317	9,571	474	893
			2	....	19.02	46.76	34.22	.48	3.69	55.37	1.57	4.67	....	5,471	9,849		
			3	....	28.91	71.09	....	.73	5.61	84.17	2.39	7.10	....	8,317	14,972		
Same (chute 8, 30 feet below water level north, No. 3 bed, 48½ inches, 44½-inch cut).	9607	B	1	1.89	23.27	64.53	10.31	.53	5.00	77.18	2.13	4.85	.3	7,624	13,723	474	893
			2	....	23.72	65.77	10.51	.54	4.88	78.67	2.17	3.23	....	7,771	13,988		
			3	....	26.50	73.50	....	.60	5.45	87.91	2.42	3.62	....	8,683	15,629		
Same (south end of short gangway from rock tunnel, 500 feet in main gangway from No. 3 slope, 21-inch cut).	9609	B	1	3.33	21.00	62.95	12.72	.68	4.89	73.14	1.89	6.68	2.0	7,253	13,055	474	893
			2	....	21.72	65.12	13.16	.70	4.68	75.66	1.96	3.84	....	7,503	13,505		
			3	....	25.01	74.99	....	.81	5.39	87.12	2.26	4.42	....	8,640	15,552		
1 mile south of; Montezuma mine, from bunkers, washed, beds 3 and 4).	9613	B	1	5.36	19.84	62.42	12.38	.51	4.94	71.79	2.03	8.35	4.7	7,158	12,884	474	894
			2	....	20.96	65.96	13.08	.54	4.59	75.85	2.14	3.80	....	7,563	13,613		
			3	....	24.11	75.89	....	.62	5.28	87.26	2.46	4.38	....	8,701	15,662		
Same (counter 2 on chute 6, No. 4 bed, 31½-inch cut).	9606	B	1	2.55	21.04	65.62	10.79	.56	....	....	....	....	2.0	7,455	13,419	474	895
			2	....	21.59	67.34	11.07	.57	....	....	....	....	....	7,650	13,770		
			3	....	24.28	75.72	....	.62	....	....	....	....	....	8,602	15,484		
Same (chute 4, north water level, No. 1 bed, 51½ inches, 4-foot cut).	9602	B	1	5.68	19.22	62.37	12.73	.97	....	....	....	....	5.0	7,024	12,643	474	894
			2	....	20.38	66.12	13.50	1.03	....	....	....	....	....	7,447	13,405		
			3	....	23.56	76.44	....	1.19	....	....	....	....	....	8,609	15,496		
Same (5 feet above counter 1, chute 36, water level, No. 2 bed, 35 inches, 31½-inch cut).	9603	B	1	3.03	18.09	56.15	22.73	.71	....	....	....	....	2.3	6,247	11,245	474	894
			2	....	18.65	57.91	23.44	.73	....	....	....	....	....	6,442	11,596		
			3	....	24.36	75.64	....	.95	....	....	....	....	....	8,415	15,147		
Same (from bunker, washed, No. 2 bed)	9604	B	1	6.74	17.71	54.39	21.16	.73	4.58	61.92	1.77	9.84	5.8	6,133	11,039	474	894
			2	....	18.99	58.32	22.69	.78	4.11	66.40	1.90	4.12	....	6,576	11,837		
			3	....	24.56	75.44	....	1.01	5.32	85.89	2.46	5.32	....	8,507	15,313		
Same (chute 11, 5 feet above water-level gangway, No. 3 bed, 33½-inch cut).	9605	B	1	3.95	18.13	58.51	19.41	.49	....	....	....	....	3.3	6,564	11,815	474	894
			2	....	18.88	60.91	20.21	.51	....	....	....	....	....	6,834	12,301		
			3	....	23.66	76.34	....	.64	....	....	....	....	....	8,565	15,417		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WASHINGTON—Continued.																	
PIERCE COUNTY—continued.																	
Melmont, T. 18 N., R. 6 E., Melmont mine (from cars, washed).	9575	C	1	7.05	20.46	53.73	18.76	0.34	4.78	63.00	1.58	11.54	6.2	6,302	11,344	474	......
			2	....	22.01	57.81	20.18	.37	4.30	67.78	1.70	5.67	....	6,780	12,204		
			3	....	27.57	72.43	....	.46	5.39	84.91	2.13	7.11	....	8,494	15,289		
Same (end of north water-level gangway, 100 feet from rock tunnel, No. 1 bed, 61½ inches, 42½-inch cut).	9577	B	1	9.20	9.37	63.73	17.70	.66	....	....	....	....	7.8	6,182	11,128	474	896
			2	....	10.32	70.19	19.49	.73	....	....	....	....	....	6,808	12,254		
			3	....	12.82	87.18	....	.91	....	....	....	....	....	8,456	15,221		
Same (25 feet above water level, chute 2 north, No. 2 bed, upper bench, 3½-foot cut).	9576	B	1	5.58	12.02	63.85	18.55	.38	....	....	....	....	4.4	6,442	11,596	474	896
			2	....	12.73	67.62	19.65	.40	....	....	....	....	....	6,823	12,281		
			3	....	15.84	84.16	....	.50	....	....	....	....	....	8,492	15,286		
Same (position and bed same as No. 9576, lower bench, 63½-inch cut).	9580	B	1	6.05	11.80	66.25	15.90	.43	....	....	....	....	4.5	6,627	11,928	474	896
			2	....	12.56	70.52	16.92	.46	....	....	....	....	....	7,054	12,697		
			3	....	15.12	84.88	....	.55	....	....	....	....	....	8,491	15,284		
Same (composite of Nos. 9576 and 9580)	10412	......	1	5.81	12.54	64.61	17.04	.38	4.10	68.59	1.67	8.22	4.5	6,542	11,776	474	895
			2	....	13.31	68.60	18.09	.40	3.67	72.83	1.77	3.24	....	6,946	12,503		
			3	....	16.25	83.75	....	.48	4.48	88.91	2.16	3.97	....	8,480	15,264		
Same (pillar, level 1 north, 200 feet up the dip, No. 3 bed, 4-foot cut).	9578	B	1	3.11	21.40	60.55	14.94	.31	....	....	....	....	2.3	6,892	12,405	474	896
			2	....	22.09	62.49	15.42	.32	....	....	....	....	....	7,113	12,803		
			3	....	26.12	73.88	....	.38	....	....	....	....	....	8,410	15,138		
Same (level 1 north, 50 feet above gangway, No. 3 bed, 77-inch cut).	9579	B	1	3.66	23.58	59.29	13.47	.35	4.97	71.61	1.72	7.88	2.9	7,084	12,751	474	896
			2	....	24.48	61.54	13.98	.36	4.73	74.33	1.79	4.81	....	7,353	13,235		
			3	....	28.46	71.54	....	.42	5.50	86.41	2.08	5.59	....	8,548	15,385		
Pittsburg, sec. 22, T. 19 N., R. 6 E., Black Carbon mine, 1,250 feet from entrance, 6 feet above gangway, Black Carbon bed, 67 inches, 55½-inch cut.	9892	B	1	5.08	32.82	39.14	22.96	.54	4.76	57.33	1.70	12.71	2.7	5,801	10,442	474	897
			2	....	34.57	41.24	24.19	.57	4.42	60.40	1.79	8.63	....	6,111	11,000		
			3	....	45.60	54.40	....	.75	5.83	79.67	2.36	11.39	....	8,061	14,510		
Pittsburg mine (from bins and cars, washed).......	9893	C	1	7.79	31.27	40.53	20.41	.40	5.03	57.19	1.65	15.32	4.7	5,708	10,274	474	......
			2	....	33.91	43.96	22.13	.43	4.51	62.02	1.79	9.12	....	6,190	11,142		
			3	....	43.55	56.45	....	.55	5.79	79.65	2.30	11.71	....	7,947	14 305		
Same (gangway just beyond chute 13½, level 1, Pittsburg bed, 56¾ inches, 50½-inch cut).	9894	B	1	4.69	32.71	42.22	20.38	.55	4.86	59.19	1.84	13.18	2.2	6,031	10,856	474	897
			2	....	34.32	44.30	21.38	.58	4.55	62.10	1.93	9.46	....	6,328	11,390		
			3	....	43.65	56.35	....	.74	5.79	78.98	2.45	12.04	....	8,049	14,488		
Same (crosscut 1, between chutes 32½ and 33, level 1, Lady Wellington bed, 59-inch cut).	9895	B	1	6.67	32.75	42.11	18.47	.41	5.00	58.85	1.64	15.63	3.5	5,911	10,640	474	898
			2	....	35.09	45.12	19.79	.44	4.56	63.06	1.76	10.39	....	6,334	11,401		
			3	....	43.75	56.25	....	.55	5.68	78.63	2.19	12.95	....	7,897	14,215		
South Willis, 2 miles from Wilkeson; sec. 22, T. 19 N., R 6 E., South Willis mine, Windsor bed (lower water-level gangway, 25 feet beyond chute 11, 4½-foot cut).	9906	B	1	3.15	30.17	45.50	21.18	.41	4.82	62.56	1.56	9.47	1.4	6,243	11,237	474	898
			2	....	31.15	46.98	21.87	.42	4.62	64.59	1.61	6.89	....	6,446	11,603		
			3	....	39.87	60.13	....	.54	5.91	82.67	2.06	8.82	....	8,250	14,850		

Same (from bunkers, washed)................	9907	C	1	7.07	28.39	42.03	22.51	.43	5.13	57.93	1.45	12.55	5.0	5,769	10,384		
			2	....	30.55	45.23	24.22	.46	4.67	62.34	1.56	6.75	....	6,208	11,174	474	......
			3	....	40.31	59.69	....	.61	6.16	82.26	2.06	8.91	....	8,192	14,746		
Wilkeson, sec. 28, T. 19 N., R. 6 E., Brier Hill mine, (500 feet south of water-level portal, 54-inch cut).	9897	B	1	4.71	29.78	37.01	28.5	1.15	4.30	52.42	1.74	11.89	2.3	5,298	9,536	474	899
			2	....	31.25	38.84	29.91	1.21	3.97	55.01	1.83	8.07	....	5,560	10,008		
			3	....	44.58	55.42	....	1.73	5.66	78.48	2.61	11.52	....	7,932	14,278		
Sec. 28, T. 19 N., R. 6 E., Gale Creek mine (10 feet south of auxiliary slope, level 1 air course, No. 1 bed, 39½-inch cut).	9908	B	1	5.49	36.40	50.05	8.06	.80	5.70	71.24	1.91	12.29	3.4	7,235	13,023	474	899
			2	....	38.51	52.96	8.53	.85	5.39	75.38	2.02	7.83	....	7,655	13,779		
			3	....	42.1	57.90	....	.93	5.89	82.41	2.21	8.56	....	8,369	15,064		
Same (gangway, level 2, 100 feet south of rock tunnel, No. 2 bed, 3-foot cut).	9909	B	1	3.9	35.03	55.09	5.98	.96	5.63	74.97	1.95	10.51	2.4	7,636	13,745	474	899
			2	....	36.45	57.33	6.22	1.00	5.41	78.01	2.03	7.33	....	7,946	14,303		
			3	....	38.87	61.13	....	1.07	5.77	83.18	2.16	7.82	....	8,473	15,251		
Same (pillar between chutes 3 and 4, level 2 gangway north, Queen bed, 3½-foot cut).	9910	B	1	2.79	33.78	53.87	9.56	1.01	5.44	73.88	2.00	8.11	1.4	7,473	13,451	474	899
			2	....	34.75	55.42	9.83	1.04	5.28	76.00	2.06	5.79	....	7,687	13,837		
			3	....	38.54	61.46	....	1.15	5.86	84.28	2.28	6.43	....	8,525	15,345		
Wilkeson mine, sec. 34, T. 19 N., R. 6 E. (screenings rewashed).	9898	B	1	6.6	23.32	56.51	13.57	.46	5.04	69.29	1.98	9.66	5.5	6,848	12,326	474	900
			2	....	24.97	60.50	14.53	.49	4.61	74.19	2.12	4.06	....	7,332	13,198		
			3	....	29.21	70.79	....	.57	5.39	86.80	2.48	4.76	....	8,578	15,440		
Same (600 feet west by 600 feet south of north quarter corner of section 34, 100 feet south of rock tunnel, No. 7 bed, 3½-foot cut).	9899	B	1	5.94	23.17	61.13	9.76	.41	5.09	74.04	2.17	8.53	4.9	7,314	13,165	474	900
			2	....	24.63	64.99	10.38	.44	4.71	78.72	2.31	3.44	....	7,776	13,997		
			3	....	27.48	72.52	....	.49	5.26	87.84	2.58	3.83	....	8,676	15,617		
Same (3,000 feet north by 1,650 feet west of southeast corner of section 34, south end of east gangway, No. 3 bed, 68½ inches, 57½-inch cut).	9900	B	1	5.34	20.44	59.27	14.95	.45	4.52	69.79	1.91	8.38	4.3	6,833	12,299	474	900
			2	....	21.59	62.62	15.79	.48	4.15	73.73	2.02	3.83	....	7,218	12,992		
			3	....	25.64	74.36	....	.57	4.93	87.55	2.40	4.55	....	8,571	15,426		
Same (1,500 feet north by 1,200 feet west of the southeast corner of section 34, east water level, No. 2 bed, lower part, 95½ inches, 35-inch cut).	9903	B	1	3.56	19.13	61.26	16.05	.49	4.41	70.52	1.94	6.59	2.8	6,843	12,317	474	900
			2	....	19.84	63.52	16.64	.51	4.16	73.12	2.01	3.56	....	7,096	12,773		
			3	....	23.8	76.20	....	.61	4.99	87.71	2.41	4.28	....	8,512	15,332		
Same (position and bed same as No. 9903, upper bench, 17-inch cut).	9904	B	1	3.06	18.48	54.95	23.51	.43	....	....	....	....	2.3	6,130	11,034	474	900
			2	....	19.06	56.69	24.25	.44	....	....	....	....	....	6,324	11,383		
			3	....	25.16	74.84	....	.58	....	....	....	....	....	8,348	15,026		
Same (50 feet up chute 19, southeast gangway, No. 3 bed, lower bench, 29-inch cut).	9901	B	1	2.34	24.53	55.29	17.84	.48	....	....	....	....	1.2	6,809	12,256	474	900
			2	....	25.12	56.61	18.27	.49	....	....	....	....	....	6,972	12,550		
			3	....	30.73	69.27	....	.60	....	....	....	....	....	8,530	15,354		
Same (position and bed same as No. 9901, upper bench, 78¾ inches, 42½-inch cut).	9902	B	1	2.52	27.68	61.27	8.53	.42	5.23	76.94	2.05	6.83	1.6	7,717	13,890	474	900
			2	....	28.4	62.85	8.75	.43	5.07	78.93	2.10	4.72	....	7,917	14,251		
			3	....	31.12	68.88	....	.47	5.56	86.50	2.30	5.17	....	8,676	15,617		
Same (50 feet up chute 105 on southeast water level, No. 2 bed, 53½ inches, 46½-inch cut).	9905	B	1	3.69	27.08	56.63	12.60	.45	5.08	72.54	2.19	7.14	2.8	7,210	12,978	474	900
			2	....	28.12	58.80	13.08	.47	4.85	75.32	2.27	4.01	....	7,486	13,475		
			3	....	32.35	67.65	....	.54	5.58	86.66	2.61	4.61	....	8,613	15,503		
2 miles southeast of; Snell mine (75 feet from entrance, Snell bed, 28 inches, 2-foot cut).	9896	B	1	6.71	25.76	50.07	17.46	.78	....	....	....	....	5.4	6,424	11,563	474	902
			2	....	27.61	53.67	18.72	.84	....	....	....	....	....	6,886	12,395		
			3	....	33.97	66.03	....	1.03	....	....	....	....	....	8,472	15,250		
THURSTON COUNTY.																	
Centralia, 3 miles north of; T. 15 N., R. 2 W., 64½ inches, Perth mine, 120 feet north of foot of slope, 53-inch cut.	*9178	B	1	25.08	32.25	34.02	8.65	.82	6.37	47.26	.91	35.99	12.4	4,539	8,170	474	903
			2	....	43.05	45.40	11.55	1.09	4.77	63.08	1.21	18.30	....	6,059	10,906		
			3	....	48.67	51.33	....	1.23	5.39	71.32	1.37	20.69	....	6,842	12,316		
Hurn (Tono); sec. 21, T. 15 N., R. 1 W., Hannaford No. 1 mine (entrance of room 12, level 1 north, lower bench, 71 inches, 69½-inch cut).	*9094	B	1	22.2	31.5	37.2	9.1	.35	....	....	....	....	16.8	4,755	8,565	474	904
			2	....	41.0	47.3	11.7	.45	....	....	....	....	....	6,115	11,010		
			3	....	46.0	54.0	....	.50	....	....	....	....	....	6,925	12,460		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WASHINGTON—Continued.																	
THURSTON COUNTY—continued.																	
Hurn, Hannaford No. 1 mine—Continued.																	
Same (200 feet from entrance of room 12, level 1 south, lower bench, 77 inches, 76-inch cut).	*9095	B	1	23.5	31.0	37.4	8.13	0.36	6.19	50.36	1.02	33.94	17.4	4,750	8,550	474	904
			2	......	40.5	48.9	10.63	.47	4.68	65.85	1.33	17.04	......	6,210	11,180		
			3	......	45.5	54.5	......	.53	5.24	73.68	1.49	19.06	......	6,950	12,510		
Same (entrance of room 8, level 2 north, lower bench, 77½ inches, 75½-inch cut).	*9096	B	1	22.7	31.0	38.3	8.02	.37	6.19	49.56	1.08	34.78	16.7	4,795	8,630	474	904
			2	......	40.0	49.6	10.37	.48	4.75	64.08	1.40	18.92	......	6,200	11,160		
			3	......	45.0	55.0	......	.54	5.30	71.49	1.56	21.11	......	6,920	12,340		
Same (upper bench, 150 feet up slope in room 7, level 2 south, 53-inch cut).	*9089	B	1	20.98	33.15	36.67	9.20	.42	......	......	......	......	16.0	4,949	8,908	474	904
			2	......	41.95	46.41	11.64	.53	......	......	......	......	......	6,263	11,273		
			3	......	47.47	52.53	......	.60	......	......	......	......	......	7,087	12,757		
Same (upper bench, 150 feet up slope in room 7, level 2 south, 53-inch cut).	*9573	B	1	21.47	31.82	40 67	6.04	.43	6.34	52.61	1.11	33.47	7.2	5,093	9,167	474	904
			2	......	40.52	51.79	7.69	.55	5.03	66.99	1.41	18.33	......	6,485	11,673		
			3	......	43.9	56.10	......	.60	5.45	72.57	1.53	19.85	......	7,025	12,645		
Tenino, 2 miles southeast of; sec. 31, T. 16 N., R. 1 W., Black Bear mine, 30 feet up room 1, level 1 west, 150 feet from portal of old gangway, 67½-inch cut).	*9939	B	1	16.02	31.86	28.93	23.19	1.50	5.04	43.44	.73	26.10	6.3	4,335	7,803	474	905
			2	......	37.94	34.45	27.61	1.79	3.88	51.73	.87	14.12	......	5,162	9,292		
			3	......	52.41	47.59	......	2.47	5.36	71.46	1.20	19.51	......	7,130	12,834		
3 miles southwest of; sec. 35, T. 16 N., R. 2 W., King mine, 100 feet up room 10, north entry 25, 42-inch cut).	*9987	B	1	22.44	33.65	32.96	10.95	2.40	6.04	48.88	.72	31.01	9.5	4,873	8,771	474	906
			2	......	43.38	42.50	14.12	3.09	4.58	63.02	.93	14.26	......	6,283	11,309		
			3	......	50.51	49.49	......	3.60	5.33	73.38	1.08	16.61	......	7,316	13,169		
WEST VIRGINIA.																	
BROOKE COUNTY.																	
Colliers, 1 mile south of station; Pittsburgh bed (Patterson country bank).	1586	B	1	4.73	36.43	51.12	7.72	2.84	......	......	......	......	2.9	......	......	*48*	906
			2	......	38.24	53.66	8.1	2.98	......	......	......	......	......	......	......		
			3	......	41.61	58.39	......	3.24	......	......	......	......	......	......	......		
Same (Pool country bank, full bed, 55-inch cut).	1584	B	1	5.06	33.02	50.48	11.44	2.74	......	......	......	......	2.8	......	......	341	906
			2	......	34.78	53.17	12.05	2.89	......	......	......	......	......	......	......	*48*	
			3	......	39.55	60.45	......	3.29	......	......	......	......	......	......	......		
FAYETTE COUNTY.																	
Alaska, 1 mile north of; Alaska mine, Fire Creek bed (pillar in Bradley's room 6,200 feet north of drift mouth, 44½-inch cut).	8169	A	1	3.08	15.81	76.31	4.8	.54	......	......	......	......	2.1	......	......	......	907
			2	......	16.31	78.74	4.95	.56	......	......	......	......	......	......	......		
			3	......	17.16	82.84	......	.59	......	......	......	......	......	......	......		

Same (pillar, Davis entry, 6,500 feet north of drift mouth, 49½-inch cut).	8170	A	1	3.14	16.75	75.22	4.89	.54					2.3				907
			2		17.29	77.66	5.05	.56									
			3		18.21	81.79		.59									
Same (composite of Nos. 8169 and 8170)	8294		1	3.07	16.83	75.24	4.86	.50	5.01	82.15	1.41	6.07	2.2	8,066	14,519		907
			2		17.36	77.63	5.01	.52	4.82	84.75	1.45	3.45		8,322	14,980		
			3		18.27	81.73		.55	5.07	89.22	1.53	3.63		8,761	15,770		
Ansted, 1 mile from; Gauley Mountain mine (room 27 off entry 9, Ansted or No. 2 Gas 53½-inch bed, 4½-foot cut).	1257	A	1	1.9	33.34	59.89	4.87	.64					.6	8,029	14,452	18	907
			2		33.99	61.05	4.96	.65						8,184	14,731	28	
			3		35.76	64.24		.68						8,612	15,502	*48*	
Same (room 15 off entry 15, 51¾-inch cut)	1258	A	1	1.84	33.0	58.40	6.76	.89					.6			18	907
			2		33.62	59.49	6.89	.91								28	
			3		36.1	63.90		.98								*48*	
Same (run of mine, 35 tons)	1515	C	1	4.16	31.28	57.39	7.17	.90	5.32	76.70	1.34	8.57	2.6	7,659	13,786	261	
			2		32.64	59.88	7.48	.94	5.07	80.03	1.40	5.08		7,991	14,384	*48*	
			3		35.28	64.72		1.02	5.48	86.50	1.51	5.49		8,638	15,548		
			4						5.54	87.38	1.53	5.55		8,702	15,664		
Ballinger, ½ mile north of; Ballinger mine, Sewell bed (entry 6, Klondike side, 36½-inch cut).	8146	A	1	4.2	22.5	70.8	2.5	.55					3.1				908
			2		23.5	73.9	2.6	.60									
			3		24.0	76.0		.60									
Same (drift 2, Egypt side, 600 feet from drift mouth, 38½-inch cut).	8154	A	1	3.5	23.0	71.1	2.4	.65					2.6				908
			2		23.5	74.0	2.5	.70									
			3		24.0	76.0		.70									
Same (left entry 6, Egypt 1, 50¾-inch cut)	8155	A	1	3.5	22.5	68.1	5.9	.60					2.6	7,870	14,170		908
			2		23.0	70.9	6.1	.65						8,155	14,680		
			3		24.5	75.5		.70						8,680	15,620		
Same (left entry 6, 2,000 feet from drift mouth, 44¾-inch cut).	8608	A	1	3.32	23.2	69.87	3.61	.65					2.4	8,095	14,571		908
			2		24.0	72.27	3.73	.67						8,372	15,070		
			3		24.93	75.07		.70						8,696	15,653		
Same (composite of Nos. 8154 and 8146)	8195		1	3.7	23.0	70.8	2.47	.59	5.10	83.10	1.50	7.24	2.9	8 105	14,590		908
			2		23.5	73.9	2.57	.61	4.86	86.33	1.56	4.07		8,420	15,158		
			3		24.5	75.5		.63	4.99	88.61	1.60	4.17		8,645	15,560		
Belva, 3 miles from, on Rush Creek, Page prospect, Eagle or No. 1 Gas bed, 1½-foot cut, 140 feet in drift.	10476	B	1	1.8	44.9	49.86	3.44	.87	6.96	80.57	1.51	6.65	1.0	8,517	15,330		909
			2		45.72	50.78	3.5	.89	6.88	82.04	1.54	5.15		8,673	15,611		
			3		47.38	52.62		.92	7.13	85.01	1.60	5.34		8,987	16,176		
Boone, ½ mile from; Boone mine, Sewell bed (right entry 4, 2,000 feet from drift mouth, 57½-inch cut).	8137	A	1	3.32	23.28	71.02	2.38	.76					2.3				909
			2		24.08	73.46	2.46	.79									
			3		24.69	75.31		.81									
Same (old main entry, 1,800 feet from drift mouth, 50-inch cut).	8138	A	1	3.55	22.58	72.01	1.86	.63					2.8				909
			2		23.41	74.66	1.93	.65									
			3		23.87	76.13		.66									
Same (right entry 4, 2,000 feet from drift mouth, 39½-inch cut).	8139	A	1	3.70	22.03	71.55	2.72	.60					2.7				909
			2		22.88	74.30	2.82	.62									
			3		23.54	76.46		.64									
Same (composite of Nos. 8137–8139)	8193		1	3.54	22.24	71.85	2.37	.65	5.22	83.38	1.52	6.86	2.6	8,160	14,688		909
			2		23.06	74.48	2.46	.67	5.01	86.44	1.58	3.84		8,459	15,226		
			3		23.64	76.36		.69	5.14	88.62	1.62	3.93		8,672	15,610		
Carlisle, Carlisle mine, Sewell bed (left airway 1 off main entry, 3,000 feet northwest of shaft, 4¾-foot cut).	7880	A	1	3.73	18.83	75.70	1.74	.56					3.0	8,269	14,884		910
			2		19.56	78.63	1.81	.58						8,589	15,460		
			3		19.92	80.08		.59						8,747	15,745		
Same (right entry 2 off left entry 2, 2,000 feet south of shaft, 48½-inch cut).	7881	A	1	2.94	19.25	73.81	4.0	1.34					2.0	8,099	14,578		910
			2		19.83	76.05	4.12	1.38						8,344	15,019		
			3		20.68	79.32		1.44						8,703	15,665		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
FAYETTE COUNTY—continued.																	
Carlisle, Carlisle mine—Continued.																	
Same (right entry 6, 2,800 feet south of shaft, 43½-inch cut).	8080	A	1	2.65	20.61	72.61	4.13	0.91	......	......	......	......	1.8	......	......	......	910
			2	......	21.17	74.59	4.24	.93	......	......	......	......	......	......	......		
			3	......	22.11	77.89	......	.97	......	......	......	......	......	......	......		
Same (composite of Nos. 7880, 7881, and 8080...	8166	......	1	3.16	19.34	74.06	3.44	.93	4.93	83.40	1.47	5.83	2.3	8,146	14,663	......	910
			2	......	19.97	76.48	3.55	.96	4.73	86.12	1.52	3.12	......	8,412	15,142		
			3	......	20.7	79.30	......	1.00	4.90	89.30	1.58	3.22	......	8,722	15,700		
Same (left entry 1, off northwest entry, 2,500 feet from shaft, 60¾-inch cut).	8702	A	1	2.9	17.5	76.6	3.0	.80	......	......	......	......	2.0	8,225	14,810	......	910
			2	......	18.0	78.9	3.1	.85	......	......	......	......	......	8,470	15,250		
			3	......	18.5	81.5	......	.85	......	......	......	......	......	8,735	15,730		
Same (right entry 3, 3,700 feet southwest of shaft, 41½-inch cut).	8703	A	1	3.5	16.5	77.2	2.8	.45	......	......	......	......	2.7	8,205	14,770	......	910
			2	......	17.5	79.6	2.9	.45	......	......	......	......	......	8,500	15,300		
			3	......	18.0	82.0	......	.50	......	......	......	......	......	8,755	15,760		
Oakwood mine, Sewell bed (left entry 1 off main entry, 3,000 feet northeast of shaft, 58½-inch cut).	7876	A	1	4.96	18.34	73.83	2.87	.63	......	......	......	......	4.2	8,013	14,423	......	911
			2	......	19.3	77.68	3.02	.66	......	......	......	......	......	8,431	15,176		
			3	......	19.9	80.10	......	.69	......	......	......	......	......	8,693	15,647		
Same (room 20, right entry 1, 4,000 feet north of shaft, 54½-inch cut).	7877	A	1	4.57	18.10	74.04	3.2	.76	......	......	......	......	3.9	8,031	14,456	......	911
			2	......	19.06	77.59	3.35	.80	......	......	......	......	......	8,416	15,149		
			3	......	19.72	80.28	......	.83	......	......	......	......	......	8,708	15,674		
Same (composite of Nos. 7876 and 7877)........	8251	......	1	4.95	18.16	73.75	3.14	.82	5.09	82.15	1.48	7.32	4.1	8,019	14,434	......	911
			2	......	19.11	77.59	3.3	.86	4.78	86.43	1.56	3.07	......	8,437	15,187		
			3	......	19.76	80.24	......	.89	4.94	89.38	1.61	3.18	......	8,725	15,705		
Same (room 4, right entry 2, 2,000 feet from shaft, 45½-inch cut).	8171	A	1	2.6	18.75	76.47	2.18	.58	......	......	......	......	1.9	8,299	14,938	......	911
			2	......	19.25	78.51	2.24	.60	......	......	......	......	......	8,521	15,338		
			3	......	10.69	80.31	......	.61	......	......	......	......	......	8,716	15,689		
Same (right entry 2, 3,500 feet from shaft, 42⅛-inch cut).	8606	A	1	2.67	19.95	75.03	2.35	.54	......	......	......	......	1.8	8,303	14,945	......	911
			2	......	20.5	77.09	2.41	.55	......	......	......	......	......	8,531	15,356		
			3	......	21.0	79.00	......	.56	......	......	......	......	......	8,742	15,736		
Claremont, ½ mile northeast of; Beechwood No. 1 mine, Fire Creek bed (Simpson entry, 55⅛-inch cut).	8060	A	1	3.31	16.28	74.87	5.54	.49	......	......	......	......	2.6	......	......	......	911
			2	......	16.84	77.43	5.73	.51	......	......	......	......	......	......	......		
			3	......	17.86	82.14	......	.54	......	......	......	......	......	......	......		
Same (Beechwood main entry, 54⅝-inch cut)....	8063	A	1	3.19	17.87	73.50	5.44	.52	......	......	......	......	2.6	......	......	......	911
			2	......	18.46	75.92	5.62	.54	......	......	......	......	......	......	......		
			3	......	19.56	80.44	......	.57	......	......	......	......	......	......	......		

Same (face of the Harry Jones entry, 51⅞-inch cut).	8062	A	1	4.22	16.32	72.21	7.25	.69	......	......	......	......	3.4	......	......	......	912
			2	......	17.04	75.39	7.57	.72	......	......	......	......	......	......	......		
			3	......	18.44	81.56	......	.78	......	......	......	......	......	......	......		
Same (composite of Nos. 8060, 8062, and 8063)	8115	......	1	3.54	17.03	73.28	6.15	.51	4.83	80.93	1.39	6.19	2.9	7,833	14,099	......	911
			2	......	17.66	75.96	6.38	.53	4.60	83.90	1.44	3.15	......	8,120	14,616		
			3	......	18.86	81.14	......	.57	4.91	89.61	1.54	3.37	......	8,673	15,611		
Beechwood No. 2 mine, Fire Creek bed (John Porter entry, 41¾-inch cut).	8059	A	1	2.87	17.02	75.93	4.18	.52	......	......	......	......	2.1	......	......	......	911
			2	......	17.52	78.18	4.3	.54	......	......	......	......	......	......	......		
			3	......	18.31	81.69	......	.56	......	......	......	......	......	......	......		
Same (face of the Old Folks entry, 45-inch cut).	8061	A	1	3.97	15.91	75.31	4.81	.55	......	......	......	......	3.2	......	......	......	912
			2	......	16.57	78.42	5.01	.57	......	......	......	......	......	......	......		
			3	......	17.44	82.56	......	.60	......	......	......	......	......	......	......		
Same (composite of Nos. 8059 and 8061)	8293	......	1	3.46	16.37	75.59	4.58	.54	4.96	82.71	1.44	5.77	2.7	8,063	14,513	......	912
			2	......	16.96	78.30	4.74	.56	4.74	85.67	1.49	2.80	......	8,352	15,034		
			3	......	17.8	82.20	......	.59	4.98	89.94	1.56	2.93	......	8,768	15,782		
Derryhale; Derryhale mine, Sewell bed (right entry 8 off new main, 3,100 feet south of drift mouth, 61⅞-inch cut).	8005	A	1	2.63	19.52	73.56	4.29	1.35	......	......	......	......	2.2	......	......	......	912
			2	......	20.05	75.54	4.41	1.39	......	......	......	......	......	......	......		
			3	......	20.97	79.03	......	1.45	......	......	......	......	......	......	......		
Same (room 10, left entry 5 off main entry, 3,500 feet southeast of drift mouth, 64¼-inch cut).	8006	A	1	3.14	18.02	74.98	3.86	.73	......	......	......	......	2.6	......	......	......	912
			2	......	18.6	77.41	3.99	.75	......	......	......	......	......	......	......		
			3	......	19.37	80.63	......	.78	......	......	......	......	......	......	......		
Same (pillar, room 21, Price's air course, 3,800 feet northwest of drift mouth, 55⅛-inch cut).	8023	A	1	3.7	17.05	76.68	2.57	.59	......	......	......	......	3.0	......	......	......	912
			2	......	17.7	79.63	2.67	.61	......	......	......	......	......	......	......		
			3	......	18.18	81.82	......	.63	......	......	......	......	......	......	......		
Same (composite of Nos. 8005, 8006, and 8023)	8113	......	1	3.33	17.34	75.68	3.65	.83	4.92	83.17	1.50	5.93	2.6	8,107	14,593	......	912
			2	......	17.94	78.28	3.78	.86	4.71	86.03	1.55	3.07	......	8,386	15,095		
			3	......	18.65	81.35	......	.89	4.90	89.41	1.61	3.19	......	8,716	15,689		
Same (3,500 feet northwest of drift mouth, 58½-inch cut).	5404	A	1	3.71	18.47	75.05	2.77	.47	......	......	......	......	2.8	8,219	14,794	362	912
			2	......	19.18	77.94	2.88	.49	......	......	......	......	......	8,536	15,365	385	
			3	......	19.75	80.25	......	.50	......	......	......	......	......	8,790	15,822		
Same (3,000 feet southeast of drift mouth, left air course 5 off new main, 54½-inch cut).	5431	A	1	3.26	19.52	74.55	2.67	.59	......	......	......	......	2.5	8,311	14,960	362	912
			2	......	20.18	77.06	2.76	.61	......	......	......	......	......	8,591	15,464	385	
			3	......	20.75	79.25	......	.63	......	......	......	......	......	8,835	15,903		
Same (run of mine, sample 1)	5501	C	1	2.0	17.57	74.10	6.33	.91	4.75	81.37	1.28	5.36	1.4	8,036	14,465	362	......
			2	......	17.93	75.61	6.46	.93	4.59	83.03	1.31	3.68	......	8,200	14,760		
			3	......	19.17	80.83	......	.99	4.91	88.77	1.40	3.93	......	8,767	15,781		
Same (run of mine, sample 2)	5561	C	1	2.61	16.41	75.26	5.72	.90	4.63	81.84	1.55	5.36	2.1	8,072	14,530	362	......
			2	......	16.85	77.28	5.87	.92	4.46	84.03	1.59	3.13	......	8,288	14,918		
			3	......	17.9	82.10	......	.98	4.74	89.27	1.69	3.32	......	8,805	15,849		
Dunglen; Dunglen mine, Sewell bed (room 1, right entry 2, 600 feet northwest of drift mouth, 54⅝-inch cut).	7994	A	1	3.05	19.74	74.57	2.64	.79	......	......	......	......	2.4	......	......	......	914
			2	......	20.36	76.92	2.72	.81	......	......	......	......	......	......	......		
			3	......	20.93	79.07	......	.83	......	......	......	......	......	......	......		
Same (room 3, left entry 5 off main entry 3, 1,400 feet N. 45° W. of drift mouth, 51¾-inch cut).	8221	A	1	3.01	20.07	74.31	2.61	.96	......	......	......	......	2.2	......	......	......	914
			2	......	20.69	76.62	2.69	.99	......	......	......	......	......	......	......		
			3	......	21.26	78.74	......	1.02	......	......	......	......	......	......	......		
Same (left 6 off main 4, 800 feet N. 45° W. of drift mouth, 4⅓-foot cut).	8220	A	1	3.49	19.17	75.01	2.33	.52	......	......	......	......	2.7	......	......	......	914
			2	......	19.86	77.73	2.41	.54	......	......	......	......	......	......	......		
			3	......	20.35	79.65	......	.55	......	......	......	......	......	......	......		
Same (composite of Nos. 7994, 8220, and 8221)	8295	......	1	3.23	19.32	74.83	2.62	.75	5.22	83.90	1.46	6.05	2.4	8,214	14,785	......	914
			2	......	19.97	77.32	2.71	.78	5.02	86.70	1.51	3.28	......	8,488	15,278		
			3	......	20.53	79.47	......	.80	5.16	89.12	1.55	3.37	......	8,725	15,705		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
FAYETTE COUNTY—continued.																	
Dunglen, Dunglen mine—Continued.																	
Same, Fire Creek bed (left entry 1, 600 feet east from drift mouth, 24¾-inch cut).	7992	A	1	3.89	16.2	76.46	3.45	0.51	......	......	......	......	3.2	8,090	14,562	......	914
			2	......	16.86	79.55	3.59	.53	......	......	......	......	......	8,418	15,152		
			3	......	17.49	82.51	......	.55	......	......	......	......	......	8,731	15,716		
Dunloop, 1½ miles southeast of; Dunn Loup No. 2 mine, Sewell bed (right entry 1 off 4, 3,550 feet northeast of drift mouth, 69¾-inch cut).	7984	A	1	2.68	16.81	77.17	3.34	.48	......	......	......	......	2.0	8,150	14,670	......	915
			2	......	17.27	79.3	3.43	.49	......	......	......	......	......	8,374	15,073		
			3	......	17.88	82.12	......	.51	......	......	......	......	......	8,672	15,610		
Same (right entry 10, 5,200 feet east of drift mouth, 63½-inch cut).	7985	A	1	3.69	17.24	76.13	2.94	.69	5.19	83.51	1.49	6.18	3.1	8,100	14,580	......	915
			2	......	17.9	79.05	3.05	.72	4.96	86.71	1.55	3.01	......	8,410	15,138		
			3	......	18.46	81.54	......	.74	5.12	89.44	1.60	3.10	......	8,675	15,615		
Same (main entry 4,000 feet from drift mouth, 68½-inch cut).	8603	A	1	3.6	16.0	78.0	2.4	.55	......	......	......	......	2.8	......	......	......	915
			2	......	17.0	80.5	2.5	.55	......	......	......	......	......	......	......		
			3	......	17.5	82.5	......	.60	......	......	......	......	......	......	......		
Same (right entry 2, 2,000 feet from drift mouth 2, 69½-inch cut).	8604	A	1	3.7	16.0	76.2	4.1	.55	......	......	......	......	2.8	......	......	......	915
			2	......	17.0	78.7	4.3	.60	......	......	......	......	......	......	......		
			3	......	17.5	82.5	......	.60	......	......	......	......	......	......	......		
Same (right entry 1 off entry 4, 3,600 feet northeast of drift mouth, 64½-inch cut).	8605	A	1	3.4	16.0	77.0	3.6	.85	......	......	......	......	2.6	......	......	......	915
			2	......	16.5	79.7	3.8	.90	......	......	......	......	......	......	......		
			3	......	17.0	83.0	......	.95	......	......	......	......	......	......	......		
Same (composite of Nos. 8603–8605)............	8744	......	1	3.4	15.5	77.6	3.48	.70	4.80	83.01	1.47	6.54	2.7	8,125	14,630	......	915
			2	......	16.0	80.4	3.6	.72	4.58	85.96	1.52	3.62	......	8,415	15,150		
			3	......	16.5	83.5	......	.75	4.75	89.17	1.58	3.75	......	8,730	15,710		
East Sewell, Brooklyn mine, Sewell bed (left heading 2, 50-inch cut).	8092	A	1	3.66	21.46	72.87	2.01	.77	......	......	......	......	2.7	......	......	......	916
			2	......	22.28	75.63	2.09	.80	......	......	......	......	......	......	......		
			3	......	22.75	77.25	......	.82	......	......	......	......	......	......	......		
Same (straight entry 7, 45-inch cut)............	8093	A	1	3.26	20.22	73.64	2.88	.75	......	......	......	......	2.2	......	......	......	916
			2	......	20.9	76.12	2.98	.78	......	......	......	......	......	......	......		
			3	......	21.54	78.46	......	.80	......	......	......	......	......	......	......		
Same (right block entry 1, 44½-inch cut)........	8094	A	1	3.55	21.45	73.12	1.88	.66	......	......	......	......	2.6	......	......	......	916
			2	......	22.24	75.81	1.95	.68	......	......	......	......	......	......	......		
			3	......	22.68	77.32	......	.69	......	......	......	......	......	......	......		
Same (composite of Nos. 8092–8094)............	8159	......	1	3.34	21.25	73.18	2.23	.56	5.13	84.19	1.55	6.34	2.5	8,234	14,821	......	916
			2	......	21.99	75.7	2.31	.58	4.92	87.10	1.60	3.49	......	8,519	15,334		
			3	......	22.51	77.49	......	.59	5.04	89.16	1.64	3.57	......	8,720	15,696		

Same (3,000 feet east of drift mouth, fifth left entry, 47½-inch cut).	5329	A	1	3.83	20.27	74.04	.86	.53	......	......	......	......	2.6	8,335	15,003	362	916
			2	......	21.08	76.99	1.93	.55	......	......	......	......	......	8,667	15,601		
			3	......	21.49	78.51	......	.56	......	......	......	......	......	8,838	15,908		
Same (1,500 feet west of drift mouth, first right entry, 4-foot cut).	5432	A	1	3.2	21.82	72.83	2.15	.51	......	......	......	......	2.5	8,308	14,954	362	916
			2	......	22.54	75.24	2.22	.53	......	......	......	......	......	8,583	15,449		
			3	......	23.05	76.95	......	.54	......	......	......	......	......	8,778	15,800		
Same (run of mine, sample 1)	5453	C	1	3.37	21.8	70.74	4.09	.58	5.06	82.19	1.34	6.74	2.6	8,068	14,522	362	......
			2	......	22.56	73.21	4.23	.60	4.85	85.06	1.39	3.87	......	8,349	15,028		
			3	......	23.56	76.44	......	.63	5.06	88.82	1.45	4.04	......	8,718	15,692		
Same (run of mine, sample 2)	5480	C	1	2.52	21.28	68.2	8.0	.68	4.73	78.71	1.31	6.57	1.7	7,776	13,997	362	......
			2	......	21.83	69.96	8.21	.70	4.57	80.74	1.34	4.44	......	7,977	14,359		
			3	......	23.78	76.22	......	.76	4.98	87.96	1.46	4.84	......	8,690	15,642		
Edmond, 1½ miles from; Keeneys Creek mine, Sewell bed (entry 3 off Virginia entry, 1,700 feet from drift mouth, 38¾-inch cut).	8140	A	1	3.2	22.0	70.6	4.2	.65	......	......	......	......	2.1	......	......	......	......
			2	......	23.0	72.7	4.3	.65	......	......	......	......	......	......	......		
			3	......	24.0	76.0	......	.70	......	......	......	......	......	......	......		
Same (straight heading 2,600 feet from drift mouth, 37½-inch cut).	8141	A	1	4.1	20.0	73.7	2.2	.50	......	......	......	......	3.0	......	......	......	917
			2	......	20.5	77.2	2.3	.50	......	......	......	......	......	......	......		
			3	......	21.0	79.0	......	.55	......	......	......	......	......	......	......		
Same (composite of Nos. 8140 and 8141)	8190	......	1	3.5	21.0	72.2	3.25	.56	5.11	82.43	1.56	7.09	2.6	8,085	14,550	......	917
			2	......	22.0	74.6	3.37	.58	4.89	85.45	1.62	4.09	......	8,380	15,080		
			3	......	22.5	77.5	......	.60	5.06	88.43	1.68	4.23	......	8,670	15,610		
Elmo, Sunnyside mine, Sewell bed (main air course, 35-inch cut).	8068	A	1	2.7	23.5	70.5	3.3	.50	......	......	......	......	1.9	......	......	......	917
			2	......	24.0	72.7	3.3	.55	......	......	......	......	......	......	......		
			3	......	25.0	75.0	......	.55	......	......	......	......	......	......	......		
Same (room on Abraham entry off right entry 4, 32½-inch cut).	8069	A	1	2.9	23.5	70.0	3.6	.60	......	......	......	......	2.1	......	......	......	917
			2	......	24.5	71.8	3.7	.65	......	......	......	......	......	......	......		
			3	......	25.5	74.5	......	.65	......	......	......	......	......	......	......		
Same (4,000 feet N. 60° E. from drift mouth, 32½-inch cut).	8244	A	1	2.6	22.5	71.2	3.7	.50	......	......	......	......	1.7	......	......	......	917
			2	......	23.0	73.2	3.8	.50	......	......	......	......	......	......	......		
			3	......	24.0	76.0	......	.55	......	......	......	......	......	......	......		
Same (composite of Nos. 8068, 8069, and 8244)	8287	......	1	2.8	23.5	70.2	3.52	.54	4.97	82.48	1.45	7.04	1.9	8,140	14,650	......	917
			2	......	24.0	72.4	3.62	.56	4.79	84.86	1.49	4.68	......	8,375	15,080		
			3	......	25.0	75.0	......	.58	4.97	88.05	1.55	4.85	......	8,690	15,640		
Fayette, half mile west of; Newlyn mine, Sewell bed (entry 8, 2,450 feet, S. 45° E. of drift mouth, 25½-inch cut).	8216	A	1	2.46	22.21	72.21	3.12	.60	......	......	......	......	1.6	8,198	14,756	......	918
			2	......	22.77	74.03	3.2	.62	......	......	......	......	......	8,405	15,129		
			3	......	23.52	76.48	......	.64	......	......	......	......	......	8,683	15,629		
Same (crosscut, entry 1, 2,500 feet N. 30° E. from drift mouth, 2-foot cut).	8217	A	1	3.22	22.28	71.68	2.82	.55	5.11	83.07	1.56	6.89	2.2	8,168	14,702	......	918
			2	......	23.02	74.07	2.91	.57	4.91	85.84	1.61	4.16	......	8,440	15,192		
			3	......	23.71	76.29	......	.59	5.06	88.42	1.66	4.27	......	8,693	15,647		
Same (face entry 2, 2,450 feet S. 45° E. from drift mouth, 25¾-inch cut).	8704	A	1	3.1	21.5	72.5	2.9	.55	......	......	......	......	2.0	......	......	......	918
			2	......	22.0	75.0	3.0	.55	......	......	......	......	......	......	......		
			3	......	23.0	77.0	......	.55	......	......	......	......	......	......	......		
Same (room 8, left entry 3, 1,500 feet from drift mouth, 32½-inch cut).	8705	A	1	3.2	22.0	70.7	4.1	.65	......	......	......	......	2.1	......	......	......	918
			2	......	22.5	73.3	4.2	.65	......	......	......	......	......	......	......		
			3	......	23.5	76.5	......	.70	......	......	......	......	......	......	......		
Same (composite of Nos. 8217, 8704, and 8705)	9147	......	1	3.3	22.0	71.2	3.47	.58	4.97	82.16	1.52	7.30	2.2	8,125	14,630	......	918
			2	......	22.5	73.9	3.59	.60	4.77	84.93	1.57	4.54	......	8,400	15,120		
			3	......	23.5	76.5	......	.62	4.95	88.09	1.63	4.71	......	8,710	15,680		
Gentry, Layland No. 1 mine, Fire Creek bed (main entry 5,000 feet east of drift mouth, 39½-inch cut).	8346	A	1	3.01	15.32	76.74	4.93	.80	......	......	......	......	2.1	......	......	......	919
			2	......	15.79	79.13	5.08	.82	......	......	......	......	......	......	......		
			3	......	16.63	83.37	......	.86	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
FAYETTE COUNTY—continued.																	
Gentry, Layland No. 1 mine—Continued.																	
Same (left entry 9, 3,500 feet east of drift mouth, 44½-inch cut).	8347	A	1	2.44	15.48	76.5	5.58	0.70					1.6				919
			2		15.87	78.41	5.72	.72									
			3		16.83	83.17		.76									
Same (room 14, left entry 6, 2,400 feet east of drift mouth, 50¾-inch cut).	8348	A	1	2.95	14.8	78.33	3.92	.66					2.0				919
			2		15.25	80.71	4.04	.68									
			3		15.89	84.11		.71									
Same (pillar, room 4, left entry 4, 1,100 feet east of drift mouth, 46½-inch cut).	8349	A	1	3.24	15.53	76.31	4.92	.80					2.1				919
			2		16.05	78.87	5.08	.83									
			3		16.91	83.09		.87									
Same (composite of Nos. 8346–8349)	8425		1	2.87	15.41	76.91	4.81	.70	4.96	82.35	1.45	5.73	2.0	8,067	14,521		919
			2		15.86	79.19	4.95	.72	4.78	84.78	1.49	3.28		8,305	14,949		
			3		16.69	83.31		.76	5.03	89.20	1.57	3.44		8,738	15,728		
Layland No. 2 mine (main heading, 5,300 feet northeast of drift mouth, 49¼-inch cut), Tire creek bed.	8234	A	1	3.6	14.5	74.9	7.0	.80					2.7				919
			2		15.0	77.7	7.3	.85									
			3		16.0	84.0		.90									
Same (pillar, left entry 5, 2,500 feet west of drift mouth, 46-inch cut).	8235	A	1	4.4	15.5	75.8	4.3	.70					3.6				919
			2		16.5	79.0	4.5	.70									
			3		17.0	83.0		.75									
Same (left entry 10, 5,200 feet west of drift mouth, 45½-inch cut).	8236	A	1	3.8	16.0	75.2	5.0	.70					3.0				919
			2		16.5	78.3	5.2	.70									
			3		17.5	82.5		.75									
Same (room 16, right entry 5, 46-inch cut)	8237	A	1	3.1	16.0	75.0	5.9	.70					2.3				919
			2		16.5	77.4	6.1	.75									
			3		17.5	82.5		.80									
Same (composite of Nos. 8234–8237)	8298		1	4.0	15.0	75.4	5.56	.70	5.04	81.47	1.40	5.83	2.9	7,935	14,280		919
			2		15.5	78.7	5.79	.73	4.78	84.89	1.46	2.35		8,265	14,880		
			3		16.5	83.5		.77	5.07	90.11	1.55	2.50		8,775	15,790		
Layland No. 3 mine (main entry, 2,400 feet east of drift mouth, 38-inch cut), Tire creek bed.	8350	A	1	2.72	16.3	75.49	5.49	.66	5.01	81.71	1.36	5.77	1.8	8,022	14,440		919
			2		16.76	77.6	5.64	.68	4.84	84.00	1.40	3.44		8,247	14,845		
			3		17.76	82.24		.72	5.13	89.02	1.48	3.65		8,740	15,732		
½ mile north of, Hemlock mine, Fire Creek bed (main heading, near left entry 11, 45½-inch cut).	8238	A	1	4.35	15.32	75.04	5.29	.64	5.08	81.30	1.43	6.26	3.5	7,966	14,339		920
			2		16.02	78.45	5.53	.67	4.81	85.00	1.50	2.49		8,328	14,990		
			3		16.96	83.04		.71	5.08	89.97	1.59	2.64		8,815	15,867		

Same (room 5, left entry 6, 2,500 feet northwest of drift mouth, 44¾-inch cut).	8239	A	1	3.19	15.12	75.7	5.99	.88					2.5	7,935	14,283		920
			2		15.62	78.19	6.19	.91						8,197	14,755		
			3		16.65	83.35		.97						8,738	15,728		
Same (1,800 feet east of drift mouth, 4½-foot cut).	8351	A	1	3.24	15.09	76.21	5.46	.82					2.2				920
			2		15.6	78.76	5.64	.85									
			3		16.53	83.47		.90									
Same (2,000 feet north of drift mouth, 47¾-inch cut).	8352	A	1	3.35	15.23	75.8	5.62	.95					2.3				920
			2		15.76	78.42	5.82	.98									
			3		16.73	83.27		1.04									
Same (room 5, left entry 6, 2,500 feet northwest of drift mouth, 3¾-foot cut).	8893	A	1	3.4	16.0	74.6	6.0	.90					2.7	7,890	14,200		920
			2		16.5	77.2	6.3	.90						8,170	14,710		
			3		17.5	82.5		.95						8,715	15,690		
Same (room 1, left entry 12, 3,600 feet northeast of drift mouth, 46½-inch cut).	8894	A	1	3.8	16.5	71.4	8.3	.80					3.1	7,665	13,800		920
			2		17.0	74.4	8.6	.80						7,970	14,350		
			3		18.5	81.5		.90						8,720	15,700		
Same (composite of Nos. 8351, 8352, and 8238)	8421		1	3.49	14.81	76.2	5.5	.76	4.91	82.35	1.44	5.04	2.7	7,982	14,368		920
			2		15.35	78.95	5.7	.79	4.68	85.33	1.49	2.01		8,271	14,888		
			3		16.28	83.72		.84	4.96	90.48	1.58	2.14		8,770	15,786		
Same (drift 1, 1,600 feet northeast of drift mouth, left entry 4, 47⅝-inch cut).	5419	A	1	2.96	17.47	73.57	6.0	1.08					2.4	8,004	14,407	362	920
			2		18.0	75.82	6.18	1.11						8,248	14,846	385	
			3		19.19	80.81		1.18						8,792	15,826		
Same (900 feet east of drift mouth, 46-inch cut)	5420	A	1	3.79	16.44	73.4	6.37	.76					3.1	7,921	14,258	362	920
			2		17.09	76.29	6.62	.79						8,233	14,819	385	
			3		18.3	81.7		.85						8,817	15,871		
Same (run of mine)	5575	C	1	2.8	17.1	74.8	5.3	.86	4.97	82.68	1.40	4.79	2.2	8,167	14,701	362	
			2		17.59	76.96	5.45	.88	4.75	85.07	1.44	2.41		8,402	15,124		
			3		18.6	81.4		.93	5.02	89.97	1.52	2.54		8,886	15,995		
Glendale, Glendale mine, Fire Creek bed (room 1, right entry 1, off daylight entry, 800 feet from drift mouth, 49½-inch cut).	8176	A	1	3.54	14.88	74.79	6.79	1.04					2.7				922
			2		15.43	77.53	7.04	1.08									
			3		16.6	83.4		1.16									
Same (room 2, Beck Burt entry, 1,400 feet north of drift mouth, 4-foot cut).	8200	A	1	2.93	14.89	75.61	6.57	.80					2.2				922
			2		15.34	77.89	6.77	.82									
			3		16.45	83.55		.88									
Same (composite of Nos. 8176 and 8200)	8410		1	3.3	15.58	74.46	6.66	.94	4.83	80.66	1.46	5.45	2.5	7,861	14,150		922
			2		16.11	77.0	6.89	.97	4.61	83.41	1.51	2.61		8,129	14,632		
			3		17.3	82.7		1.04	4.95	89.58	1.62	2.81		8,731	15,716		
Glen Jean, ½ mile from; Collins mine, Sewell bed (room 14, left entry 12, 7,000 feet north of drift mouth, 53-inch cut).	7923	A	1	3.83	19.03	71.2	5.94	.75					2.6	7,828	14,090		922
			2		19.79	74.03	6.18	.78						8,140	14,652		
			3		21.09	78.91		.83						8,676	15,617		
Same (room 2, right entry 5, off main entry 21, 7,000 feet from drift mouth, 70½-inch cut).	7922	A	1	3.75	17.01	75.0	4.24	.68					2.9	8,044	14,479		922
			2		17.67	77.92	4.41	.71						8,358	15,044		
			3		18.48	81.52		.74						8,743	15,737		
Same (pillar 18, right entry 9, off main entry, 3,300 feet from drift mouth, 62⅞-inch cut).	8124	A	1	2.71	17.45	76.73	3.11	1.59					1.8				922
			2		17.94	78.86	3.2	1.63									
			3		18.53	81.47		1.68									
Same (room 2, left entry 2, off entry 21, 4,000 feet southeast of drift mouth, 44¾-inch cut).	8125	A	1	2.86	19.28	73.25	4.61	.74					2.0				922
			2		19.85	75.4	4.75	.76									
			3		20.84	79.16		.80									
Same (right entry 6, off entry 21, 4,800 feet southeast of drift mouth, 61-inch cut).	8650	A	1	3.7	16.0	75.2	5.1	1.15					3.0	7,950	14,310		922
			2		16.5	78.2	5.3	1.20						8,260	14,870		
			3		17.5	82.5		1.25						8,720	15,700		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
FAYETTE COUNTY—continued.																	
Glen Jean, Collins mine—Continued.																	
Same (left entry 9, off entry 21, 4,000 feet east of drift mouth, 62½-inch cut).	8651	A	1	3.5	16.5	74.9	5.1	0.55	......	......	......	......	2.7	7,970	14,350	......	922
			2	......	17.0	77.7	5.3	.55	......	......	......	......	......	8,260	14,870		
			3	......	18.0	82.0	......	.60	......	......	......	......	......	8,720	15,700		
Same (composite of Nos. 7922, 7923, 8124, and 8125).	8192	......	1	3.21	17.87	74.42	4.5	.97	5.08	82.10	1.55	5.80	2.3	8,078	14,540	......	922
			2	......	18.46	76.89	4.65	1.00	4.88	84.83	1.60	3.04	......	8,346	15,023		
			3	......	19.36	80.64	......	1.05	5.12	88.97	1.68	3.18	......	8,753	15,755		
Nichol mine, Sewell bed (left entry 4, 2,800 feet northwest of slope, 64¾-inch cut).	8000	A	1	2.57	18.00	75.50	3.93	.51	......	......	......	......	2.0	......	......	......	923
			2	......	18.48	77.49	4.03	.52	......	......	......	......	......	......	......		
			3	......	19.26	80.74	......	.54	......	......	......	......	......	......	......		
Same (right entry 3, 2,300 feet north of slope, 59¼-inch cut).	8004	A	1	2.45	18.92	75.80	2.83	.55	......	......	......	......	1.9	......	......	......	923
			2	......	19.39	77.71	2.90	.56	......	......	......	......	......	......	......		
			3	......	19.97	80.03	......	.58	......	......	......	......	......	......	......		
Same (main entry, 2,750 feet N. 30° W. from slope, 56½-inch cut).	8022	A	1	2.57	16.92	76.24	4.27	.86	......	......	......	......	2.0	......	......	......	923
			2	......	17.37	78.25	4.38	.88	......	......	......	......	......	......	......		
			3	......	18.17	81.83	......	.92	......	......	......	......	......	......	......		
Same (left entry 5, 2,500 feet from slope, 53½-inch cut).	8595	A	1	2.7	19.0	75.4	2.9	.55	......	......	......	......	2.0	8,240	14,830	......	923
			2	......	19.5	77.5	3.0	.55	......	......	......	......	......	8,470	15,250		
			3	......	20.0	80.0	......	.55	......	......	......	......	......	8,735	15,720		
Same (right entry 5, 2,500 feet from slope, 56-inch cut).	8596	A	1	2.8	18.5	74.7	4.0	.75	......	......	......	......	2.1	8,110	14,590	......	923
			2	......	19.0	76.8	4.2	.75	......	......	......	......	......	8,345	15,020		
			3	......	19.5	80.5	......	.80	......	......	......	......	......	8,705	15,670		
Same (composite of Nos. 8000, 8004, and 8022)...	8110	......	1	2.77	18.87	74.83	3.53	.64	4.84	83.95	1.56	5.48	2.0	8,186	14,735	......	923
			2	......	19.41	76.96	3.63	.66	4.66	86.34	1.60	3.11	......	8,419	15,154		
			3	......	20.14	79.86	......	.68	4.84	89.60	1.66	3.22	......	8,736	15,725		
Harvey, Harvey mine, Sewell bed (room 14, right entry 19, district 1, 9,000 feet northeast of drift mouth, 49½-inch cut).	7920	A	1	2.82	21.32	71.86	4.0	2.08	......	......	......	......	2.0	8,106	14,591	......	924
			2	......	21.94	73.94	4.12	2.14	......	......	......	......	......	8,341	15,014		
			3	......	22.88	77.12	......	2.23	......	......	......	......	......	8,699	15,658		
Same (room 1, right entry 10, district 2, 7,000 feet north of drift mouth, 47-inch cut).	7921	A	1	2.94	19.97	74.77	2.32	.57	......	......	......	......	2.3	8,195	14,751	......	924
			2	......	20.58	77.03	2.39	.59	......	......	......	......	......	8,443	15,197		
			3	......	21.08	78.92	......	.60	......	......	......	......	......	8,650	15,570		
Same (room 17, right entry 1, off left entry 4, 8,000 feet south from drift mouth, 5-foot cut).	8085	A	1	2.86	19.96	72.3	4.88	.61	......	......	......	......	2.0	......	......	......	924
			2	......	20.55	74.43	5.02	.63	......	......	......	......	......	......	......		
			3	......	21.64	78.36	......	.66	......	......	......	......	......	......	......		

Same (composite of Nos. 7920, 7921, and 8085)..	8164	......	1	2.94	20.11	73.1	3.85	1.12	5.04	82.60	1.46	5.93	2.1	8,101	14,582	......	924
			2	......	20.72	75.31	3.97	1.15	4.85	85.10	1.50	3.43	......	8,346	15,023		
			3	......	21.57	78.43	......	1.20	5.05	88.61	1.56	3.58	......	8,690	15,642		
Hawks Nest, 1 mile east of; Mill Creek mine, Sewell bed (room 6, near left entry 1, 1,000 feet from drift mouth, 2½-foot cut).	8179	A	1	7.1	22.5	67.2	3.2	.55	......	......	......	......	5.9	......	......	......	924
			2	......	24.0	72.5	3.5	.60	......	......	......	......	......	......	......		
			3	......	25.0	75.0	......	.60	......	......	......	......	......	......	......		
Same (main entry crosscut, 1,400 feet southeast of drift mouth, 30½-inch cut).	8178	A	1	3.2	25.0	68.4	3.4	.55	......	......	......	......	2.0	......	......	......	924
			2	......	25.5	71.1	3.4	.55	......	......	......	......	......	......	......		
			3	......	26.5	73.5	......	.60	......	......	......	......	......	......	......		
Same (composite of Nos. 8178 and 8179........	8288	......	1	5.0	24.5	67.2	3.3	.55	5.12	80.06	1.38	9.59	4.0	7,935	14,280	......	924
			2	......	25.5	71.0	3.5	.58	4.80	84.30	1.45	5.41	......	8,355	15,040		
			3	......	26.5	73.5	......	.60	4.97	87.32	1.50	5.61	......	8,655	15,580		
Herberton, Herberton mine, Eagle or No. 1 Gas bed (pillar right entry 1, 400 feet north of drift mouth, 47½-inch cut).	8903	A	1	3.1	25.5	67.4	4.0	.70	......	......	......	......	2.4	......	......	......	925
			2	......	26.5	69.3	4.2	.75	......	......	......	......	......	......	......		
			3	......	27.5	72.5	......	.75	......	......	......	......	......	......	......		
Same (main entry, 1,500 feet northwest of drift mouth, 43½-inch cut).	8904	A	1	3.5	24.5	66.7	5.3	.75	......	......	......	......	2.8	......	......	......	925
			2	......	25.5	69.0	5.5	.75	......	......	......	......	......	......	......		
			3	......	27.0	73.0	......	.80	......	......	......	......	......	......	......		
Same (room 21, left entry 1, 1,200 feet west of drift mouth, 49-inch cut).	8905	A	1	3.0	25.0	68.2	3.8	.60	......	......	......	......	2.3	......	......	......	925
			2	......	26.5	69.6	3.9	.65	......	......	......	......	......	......	......		
			3	......	27.5	72.5	......	.65	......	......	......	......	......	......	......		
Same (composite of Nos. 8903–8905)............	8937	......	1	3.3	25.5	66.8	4.43	.73	5.23	81.66	1.45	6.50	2.5	8,055	14,500	......	925
			2	......	26.5	68.9	4.58	.76	5.03	84.47	1.50	3.66	......	8,330	15,000		
			3	......	27.5	72.5	......	.80	5.27	88.53	1.57	3.83	......	8,730	15,720		
Kilsyth, Kilsyth mine, Sewell bed (room 7, right entry 13, 3,000 feet southwest of drift mouth, 65¾-inch cut).	8058	A	1	3.4	18.0	74.03	4.57	.76	......	......	......	......	2.8	......	......	......	926
			2	......	18.63	76.64	4.73	.79	......	......	......	......	......	......	......		
			3	......	19.55	80.45	......	.83	......	......	......	......	......	......	......		
Same (main entry 2, 5,000 feet S. 11° W. of drift mouth, 70¾-inch cut)................	8090	A	1	3.2	15.51	76.83	4 46	.56	......	......	......	......	2.3	......	......	......	926
			2	......	16.02	79.37	4.61	.58	......	......	......	......	......	......	......		
			3	......	16.79	83.21	......	.61	......	......	......	......	......	......	......		
Same (left entry 14, 4,500 feet S. 13° E. of drift mouth, 52¾-inch cut).	8095	A	1	2.61	17.27	76.39	3.73	.88	......	......	......	......	1.7	......	......	......	926
			2	......	17.73	78.44	3.83	.90	......	......	......	......	......	......	......		
			3	......	18.44	81.56	......	.94	......	......	......	......	......	......	......		
Same (left entry 12, 5,500 feet S. 13° E. of drift mouth, 61½-inch cut).	8091	A	1	2.95	17.11	76.58	3.36	.58	......	......	......	......	2.1	......	......	......	926
			2	......	17.63	78.91	3.46	.60	......	......	......	......	......	......	......		
			3	......	18.26	81.74	......	.62	......	......	......	......	......	......	......		
Same (room 11, dip entry 1, 4,500 feet S. 60° W. of drift mouth, 62¾-inch cut)................	8089	A	1	2.68	17.41	74.13	5.78	1.92	......	......	......	......	1.9	......	......	......	926
			2	......	17.89	76.17	5.94	1.97	......	......	......	......	......	......	......		
			3	......	19.02	80.98	2.09	......	......	......	......	......	......	......	......		
Same (composite of Nos. 8058, 8089–8091, and 8095).	8163	......	1	2.86	17.63	75.16	4.35	.94	4.89	83.36	1.55	4.91	2.2	8,077	14,539	......	926
			2	......	18.15	77.37	4.48	.97	4.70	85.81	1.60	2.44	......	8,314	14,965		
			3	......	19.0	81.0	......	1.02	4.92	89.83	1.68	2.55	......	8,704	15,667		
Laurel Creek, Laurel mine, Fire Creek bed (left straight heading 1, 3½-foot cut).	8073	A	1	2.39	14.5	78.93	4.18	.87	......	......	......	......	1.7	8,143	14,657	......	927
			2	......	14.86	80.86	4.28	.89	......	......	......	......	......	8,343	15,017		
			3	......	15.52	84.48	......	.93	......	......	......	......	......	8,716	15,689		
Same (left heading 7, 45½-inch cut)............	8074	A	1	2.74	14.16	77.85	5.25	.65	......	......	......	......	2.0	......	......	......	927
			2	......	14.56	80.04	5.4	.67	......	......	......	......	......	......	......		
			3	......	15.39	84.61	......	.71	......	......	......	......	......	......	......		
Same (right heading 12, 3¾-foot cut)	8075	A	1	2.85	14.44	78.02	4.69	.55	......	......	......	......	2.2	......	......	......	927
			2	......	14.86	80.31	4.83	.57	......	......	......	......	......	......	......		
			3	......	15.61	84.39	......	.60	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
FAYETTE COUNTY—continued.																	
Laurel Creek, Laurel mine—Continued.																	
Same (left heading 1 off main heading 12, 4,000 feet northeast of opening, 44½-inch cut).	8892	A	1	3.7	16.0	75.5	4.8	0.50	......	......	......	......	2.9	7,980	14,370	......	927
			2	......	16.5	78.5	5.0	.50	......	......	......	......	......	8,285	14,910		
			3	......	17.0	83.0	......	.55	......	......	......	......	......	8,720	15,690		
Same (composite of Nos. 8073, 8074, and 8075)...	8119	......	1	2.69	15.48	76.91	4.92	.59	4.84	83.55	1.41	4.69	2.0	8,056	14,501	......	927
			2	......	15.91	79.03	5.06	.61	4.67	85.86	1.45	2.35	......	8,278	14,900		
			3	......	16.76	83.24	......	.64	4.92	90.44	1.53	2.47	......	8,719	15,694		
Lawton, Greenwood mine, Fire Creek bed (cross-cut, Valentine entry, 1,100 feet south of drift mouth, 50-inch cut).	8168	A	1	4.00	16.13	73.81	6.06	.61	......	......	......	......	3.0	......	......	......	927
			2	......	16.80	76.89	6.31	.64	......	......	......	......	......	......	......		
			3	......	17.93	82.07	......	.68	......	......	......	......	......	......	......		
Same (room 6, right entry 2 off Valentine entry, 46½-inch cut).	8198	A	1	4.30	15.44	73.70	6.56	.72	......	......	......	......	3.6	......	......	......	927
			2	......	16.13	77.02	6.85	.75	......	......	......	......	......	......	......		
			3	......	17.32	82.68	......	.81	......	......	......	......	......	......	......		
Same (right entry 2, off entry 7, 3,600 feet northwest of drift mouth, 46½-inch cut).	8177	A	1	3.29	16.56	75.37	4.78	.69	......	......	......	......	2.4	......	......	......	927
			2	......	17.12	77.94	4.94	.71	......	......	......	......	......	......	......		
			3	......	18.01	81.99	......	.75	......	......	......	......	......	......	......		
Same (Moss's entry, 5,700 feet northwest of drift mouth, 51½-inch cut).	8212	A	1	3.76	16.30	75.56	4.38	.79	......	......	......	......	3.0	......	......	......	927
			2	......	16.94	78.51	4.55	.82	......	......	......	......	......	......	......		
			3	......	17.74	82.26	......	.86	......	......	......	......	......	......	......		
Same (composite of Nos. 8168 and 8198)........	8407	......	1	4.17	16.56	72.86	6.41	.65	4.99	80.10	1.32	6.53	3.3	7,816	14,069	......	927
			2	......	17.28	76.03	6.69	.68	4.73	83.58	1.38	2.94	......	8,156	14,681		
			3	......	18.52	81.48	......	.73	5.07	89.57	1.48	3.15	......	8,741	15,734		
Same (composite of Nos. 8212 and 8177)........	8408	......	1	3.51	16.73	75.16	4.60	.59	4.99	82.64	1.32	5.86	2.7	8,025	14,445	......	927
			2	......	17.34	77.89	4.77	.61	4.77	85.65	1.37	2.83	......	8,317	14,971		
			3	......	18.21	81.79	......	.64	5.01	89.94	1.44	2.97	......	8,734	15,721		
½ mile from; Quinnimont mine, Fire Creek bed (left entry 1, off right entry 2, 900 feet north of drift mouth, 44½-inch cut).	8197	A	1	4.99	14.52	73.09	7.40	.79	......	......	......	......	4.3	......	......	......	928
			2	......	15.28	76.93	7.79	.83	......	......	......	......	......	......	......		
			3	......	16.57	83.43	......	.90	......	......	......	......	......	......	......		
Same (break-through between right entry 2 and air course, 3,000 feet northeast of drift mouth, 44¾-inch cut).	8214	A	1	3.58	15.39	72.46	8.57	.85	......	......	......	......	2.9	......	......	......	928
			2	......	15.96	75.15	8.89	.88	......	......	......	......	......	......	......		
			3	......	17.52	82.48	......	.97	......	......	......	......	......	......	......		
Same (break-through, right entry 2, 2,000 feet northwest of drift mouth, 49-inch cut).	8215	A	1	3.31	14.70	73.50	8.49	.85	......	......	......	......	2.6	......	......	......	928
			2	......	15.20	76.02	8.78	.88	......	......	......	......	......	......	......		
			3	......	16.66	83.34	......	.96	......	......	......	......	......	......	......		

Same (composite of Nos. 8197, 8214, and 8215)..	8299	......	1	4.01	14.06	73.73	8.20	.78	4.83	79.05	1.40	5.74	3.3	7,692	13,846	......	928
			2	......	14.65	76.81	8.54	.81	4.56	82.35	1.46	2.28	......	8,014	14,425		
			3	......	16.02	83.98	......	.89	4.99	90.04	1.60	2.48	......	8,763	15,773		
Lookout, 8 miles east of Nuttall; Blume mine, Sewell bed (right entry 10, 4,000 feet from drift mouth, 39½-inch cut).	8149	A	1	3.6	24.0	68.9	3.5	.55	......	......	......	......	2.6	......	......	......	929
			2	......	25.0	71.4	3.6	.60	......	......	......	......	......	......	......		
			3	......	26.0	74.0	......	.60	......	......	......	......	......	......	......		
Same (main straight entry, 4,500 feet from drift mouth, 34⅛-inch cut).	8150	A	1	2.8	22.5	69.9	4.8	.50	......	......	......	......	1.7	......	......	......	929
			2	......	23.0	72.1	4.9	.55	......	......	......	......	......	......	......		
			3	......	24.0	76.0	......	.55	......	......	......	......	......	......	......		
Same (right entry 1, off left entry 4, 1,500 feet from drift mouth, 37-inch cut).	8156	A	1	3.4	23.0	71.4	2.2	.50	......	......	......	......	2.5	8,155	14,680	......	929
			2	......	23.5	74.2	2.3	.55	......	......	......	......	......	8,445	15,200		
			3	......	24.0	76.0	......	.55	......	......	......	......	......	8,645	15,560		
Same (right entry 1, off left entry 4, 1,500 feet from drift mouth, 37½-inch cut).	8609	A	1	3.52	22.66	71.89	1.93	.55	......	......	......	......	2.5	8,182	14,728	......	929
			2	......	23.49	74.51	2.00	.57	......	......	......	......	......	8,481	15,266		
			3	......	23.97	76.03	......	.58	......	......	......	......	......	8,654	15,577		
Same (composite of Nos. 8149 and 8150)........	8194	......	1	3.2	23.5	69.1	4.17	.54	5.05	81.34	1.47	7.43	2.2	7,990	14,380	......	929
			2	......	24.0	71.7	4.31	.56	4.85	84.06	1.52	4.70	......	8,255	14,860		
			3	......	25.5	74.5	......	.59	5.07	87.84	1.59	4.91	......	8,630	15,530		
Lookout mine, Sewell bed (left entry 1, 600 feet from drift mouth, 34-inch cut).	8135	A	1	4.03	24.00	67.82	4.15	.77	......	......	......	......	3.0	......	......	......	930
			2	......	25.01	70.67	4.32	.80	......	......	......	......	......	......	......		
			3	......	26.14	73.86	......	.84	......	......	......	......	......	......	......		
Same (left entry 2, off straight entry, 1,300 feet from drift mouth, 32¾-inch cut).	8136	A	1	3.22	24.36	69.75	2.67	.75	......	......	......	......	2.2	......	......	......	930
			2	......	25.17	72.07	2.76	.77	......	......	......	......	......	......	......		
			3	......	25.88	74.12	......	.79	......	......	......	......	......	......	......		
Same (composite of Nos. 8135 and 8136)........	8189	......	1	3.71	23.53	69.37	3.39	.80	5.14	82.06	1.47	7.14	2.6	7,948	14,306	......	930
			2	......	24.44	72.04	3.52	.83	4.91	85.22	1.53	3.99	......	8,254	14,857		
			3	......	25.33	74.67	......	.86	5.09	88.33	1.59	4.13	......	8,555	15,399		
Macdonald, Macdonald mine, Sewell bed (7,720 feet from drift mouth, room 11, left entry 18, 60¾-inch cut).	2359	A	1	3.26	21.57	72.71	2.46	.78	......	......	......	......	2.5	8,207	14,773	290	930
			2	......	22.30	75.16	2.54	.81	......	......	......	......	......	8,484	15,271	336	
			3	......	22.88	77.12	......	.83	......	......	......	......	......	8,705	15,669	28	
Same (7,600 feet southwest of drift mouth, room 16, right entry 16, 56¼-inch cut).	2360	A	1	3.51	21.11	72.83	2.55	.53	......	......	......	......	2.8	......	......	290	930
			2	......	21.88	75.48	2.64	.55	......	......	......	......	......	......	......	336	
			3	......	22.47	77.53	......	.56	......	......	......	......	......	......	......	28	
Same (run of mine)...........................	2549	C	1	2.96	22.74	69.29	5.01	.89	4.81	81.64	1.57	6.08	2.3	8,014	14,425	290	......
			2	......	23.43	71.41	5.16	.92	4.62	84.13	1.62	3.55	......	8,258	14,864		
			3	......	24.70	75.30	......	.97	4.87	88.71	1.71	3.74	......	8,708	15,674		
Same (left entry 19, 7,000 feet west of drift mouth, 56½-inch cut).	7987	A	1	3.32	18.96	75.17	2.55	.72	......	......	......	......	2.8	......	......	......	930
			2	......	19.61	77.75	2.64	.74	......	......	......	......	......	......	......		
			3	......	20.14	79.86	......	.76	......	......	......	......	......	......	......		
Same (cross entry 17 off left entry 18, 6,000 feet southeast of drift mouth, 56½-inch cut).	7993	A	1	2.98	18.22	76.18	2.62	.58	......	......	......	......	2.3	......	......	......	930
			2	......	18.78	78.52	2.70	.60	......	......	......	......	......	......	......		
			3	......	19.30	80.70	......	.62	......	......	......	......	......	......	......		
Same (pillar, right entry 11, 4,200 feet S. 10° W. of drift mouth, 68½-inch cut).	7999	A	1	3.02	17.52	76.31	3.15	.60	......	......	......	......	2.2	......	......	......	930
			2	......	18.06	78.69	3.25	.62	......	......	......	......	......	......	......		
			3	......	18.67	81.33	......	.64	......	......	......	......	......	......	......		
Same (composite of Nos. 7987, 7993, and 7999)....	8112	......	1	3.22	17.53	76.46	2.79	.64	5.01	84.11	1.56	5.89	2.4	8,200	14,760	......	930
			2	......	18.11	79.01	2.88	.66	4.80	86.91	1.61	3.14	......	8,473	15,251		
			3	......	18.65	81.35	......	.68	4.94	89.49	1.66	3.23	......	8,725	15,705		
Sugar Creek mine, Sewell bed (room 4 on air course, 2,200 feet west of drift mouth, 56½-inch cut).	7986	A	1	2.45	19.12	75.14	3.29	.64	......	......	......	......	1.9	......	......	......	932
			2	......	19.60	77.03	3.37	.66	......	......	......	......	......	......	......		
			3	......	20.28	79.72	......	.68	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
FAYETTE COUNTY—continued.																	
Macdonald, Sugar Creek mine—Continued.																	
Same (entry 3, 1,000 feet east of drift mouth, 57-inch cut).	7996	A	1	4.09	18.10	74.77	3.04	0.77	......	......	......	......	3.4	......	......	......	932
			2	......	18.87	77.96	3.17	.80	......	......	......	......	......	......	......		
			3	......	19.49	80.51	......	.83	......	......	......	......	......	......	......		
Same (room 32, left entry 4, 2,400 feet west of drift mouth, 56½-inch cut).	7997	A	1	5.50	16.57	74.38	3.55	.85	......	......	......	......	4.9	......	......	......	932
			2	......	17.53	78.71	3.76	.90	......	......	......	......	......	......	......		
			3	......	18.22	81.78	......	.94	......	......	......	......	......	......	......		
Same (room 14, off left entry 1, south of drift mouth 300 feet, 57½-inch cut).	8598	A	1	4.4	18.5	72.8	4.3	.70	......	......	......	......	3.6	7,945	14,300	......	932
			2	......	19.5	76.0	4.5	.75	......	......	......	......	......	8,305	14,950		
			3	......	20.5	79.5	......	.80	......	......	......	......	......	8,695	15,660		
Same (composite of Nos. 7986, 7996, and 7997)	8105	......	1	4.04	18.22	74.43	3.31	.81	5.00	82.92	1.28	6.68	3.4	8,039	14,470	......	932
			2	......	18.99	77.56	3.45	.84	4.74	86.41	1.33	3.23	......	8,377	15,079		
			3	......	19.67	80.33	......	.87	4.91	89.49	1.38	3.35	......	8,676	15,617		
Minden, Minden No. 2 mine, Sewell bed (left air course 9, 3,200 feet S. 60° E. of drift mouth, 47½-inch cut).	8024	A	1	3.09	22.10	69.73	5.08	2.02	......	......	......	......	2.4	......	......	......	932
			2	......	22.80	71.96	5.24	2.08	......	......	......	......	......	......	......		
			3	......	24.06	75.94	......	2.20	......	......	......	......	......	......	......		
Same (left entry 1, 3,000 feet S. 60° E. from drift mouth, 49½-inch cut).	8025	A	1	2.61	22.28	71.92	3.19	1.32	......	......	......	......	2.0	......	......	......	932
			2	......	22.88	73.84	3.28	1.36	......	......	......	......	......	......	......		
			3	......	23.66	76.34	......	1.41	......	......	......	......	......	......	......		
Same (right air course 6, 2,800 feet N. 60° W. from drift mouth, 62½-inch cut).	8026	A	1	2.79	20.61	72.12	4.48	1.42	......	......	......	......	2.1	......	......	......	932
			2	......	21.20	74.19	4.61	1.46	......	......	......	......	......	......	......		
			3	......	22.22	77.78	......	1.53	......	......	......	......	......	......	......		
Same (left entry 4, 2,100 feet southeast of drift mouth, 59-inch cut).	8881	A	1	3.4	21.0	72.4	3.2	.60	......	......	......	......	2.7	8,150	14,670	......	932
			2	......	21.5	75.2	3.3	.60	......	......	......	......	......	8,435	15,190		
			3	......	22.5	77.5	......	.60	......	......	......	......	......	8,725	15,710		
Same (left entry 7, 1,600 feet from drift mouth, 60½-inch cut).	8882	A	1	3.1	21.0	72.5	3.4	1.25	......	......	......	......	2.5	8,175	14,720	......	932
			2	......	22.0	74.4	3.6	1.30	......	......	......	......	......	8,440	15,200		
			3	......	22.5	77.5	......	1.35	......	......	......	......	......	8,755	15,760		
Same (composite of Nos. 8024, 8025, and 8026)	8107	......	1	2.90	21.57	71.18	4.35	1.66	4.94	82.15	1.56	5.34	2.2	8,074	14,533	......	932
			2	......	22.21	73.31	4.48	1.71	4.76	84.61	1.61	2.83	......	8,315	14,967		
			3	......	23.25	76.75	......	1.79	4.98	88.58	1.69	2.96	......	8,705	15,609		
Minden No. 3 mine, Sewell bed (left entry 7, 3,000 feet east of drift mouth, 53½-inch cut).	8027	A	1	2.48	21.84	71.16	4.52	1.34	......	......	......	......	1.9	......	......	......	933
			2	......	22.39	72.98	4.63	1.37	......	......	......	......	......	......	......		
			3	......	23.48	76.52	......	1.44	......	......	......	......	......	......	......		

Same (right air course 8, breakthrough 1, 50-inch cut).	8028	A	1	3.21	20.15	73.51	3.13	.76	......	......	......	......	2.5	......	......	......	933
			2	......	20.82	75.95	3.23	.79	......	......	......	......	......	......	......		
			3	......	21.52	78.48	......	.82	......	......	......	......	......	......	......		
Same (crosscut, right entry 5, 2,400 feet west of drift mouth, 55-inch cut).	8381	A	1	2.95	17.12	77.24	2.69	.54	......	......	......	......	2.0	8,231	14,816	......	933
			2	......	17.64	79.59	2.77	.56	......	......	......	......	......	8,481	15,266		
			3	......	18.14	81.86	......	.58	......	......	......	......	......	8,723	15,701		
Same (room, left entry 4, 1,300 feet southeast of drift mouth, 4½-foot cut).	8880	A	1	2.5	21.5	72.7	3.3	1.05	......	......	......	......	1.6	8,195	14,750	......	933
			2	......	22.0	74.6	3.4	1.10	......	......	......	......	......	8,400	15,120		
			3	......	23.0	77.0	......	1.15	......	......	......	......	......	8,700	15,660		
Same (composite of Nos. 8027 and 8028)........	8249	......	1	2.88	20.68	72.58	3.86	1.06	4.88	82.66	1.50	6.04	2.2	8,127	14,629	......	933
			2	......	21.29	74.74	3.97	1.09	4.70	85.12	1.54	3.58	......	8,368	15,062		
			3	......	22.17	77.83	......	1.14	4.89	88.64	1.60	3.73	......	8,714	15,685		
Minden No. 4 mine, Sewell bed (left entry 4, 3,000 feet N. 82° W. of drift mouth, 50-inch cut).	8029	A	1	3.26	20.08	74.61	2.05	.56	......	......	......	......	2.6	......	......	......	933
			2	......	20.76	77.12	2.12	.58	......	......	......	......	......	......	......		
			3	......	21.21	78.79	......	.59	......	......	......	......	......	......	......		
Same (room 5, right entry 9, S. 82° E. from drift mouth, 52½-inch cut).	8030	A	1	2.96	22.34	71.93	2.77	.63	......	......	......	......	2.3	......	......	......	933
			2	......	23.02	74.13	2.85	.65	......	......	......	......	......	......	......		
			3	......	23.69	76.31	......	.67	......	......	......	......	......	......	......		
Same (main entry, 5,000 feet N. 82° E. from drift mouth, 47½-inch cut).	8031	A	1	2.61	22.57	71.88	2.94	.64	......	......	......	......	2.0	......	......	......	933
			2	......	23.17	73.81	3.02	.66	......	......	......	......	......	......	......		
			3	......	23.89	76.11	......	.68	......	......	......	......	......	......	......		
Same (composite of Nos. 8029-8031)............	8102	......	1	2.89	21.16	73.31	2.64	.73	5.19	83.87	1.60	5.97	2.3	8,214	14,785	......	933
			2	.....	21.79	75.49	2.72	.75	5.02	86.37	1.65	3.49	......	8,459	15,226		
			3	......	22.40	77.60	......	.77	5.16	88.79	1.70	3.58	......	8,696	15,653		
Minden No. 5 mine, Sewell bed (left entry 6, 1,500 feet northwest from drift mouth, 53-inch cut).	8032	A	1	2.61	20.39	74.31	2.69	.59	......	......	......	......	1.9	......	......	......	934
			2	......	20.94	76.30	2.76	.61	......	......	......	......	......	......	......		
			3	......	21.53	78.47	......	.63	......	......	......	......	......	......	......		
Same (right heading 7, 850 feet northeast of drift mouth, 39½-inch cut).	8033	A	1	2.68	21.62	71.73	3.97	1.72	......	......	......	......	2.0	......	......	......	934
			2	......	22.21	73.71	4.08	1.77	......	......	......	......	......	......	......		
			3	......	23.15	76.85	......	1.85	......	......	......	......	......	......	......		
Same (main heading, 4,000 feet north of drift mouth, 50½-inch cut).	8034	A	1	2.74	20.73	74.30	2.23	.56	......	......	......	......	2.0	......	......	......	934
			2	......	21.31	76.40	2.29	.58	......	......	......	......	......	......	......		
			3	......	21.81	78.19	......	.59	......	......	......	......	......	......	......		
Same (composite of Nos. 8032-8034)............	8101	......	1	2.75	21.58	72.72	2.95	1.07	5.04	84.27	1.50	5.17	2.0	8,249	14,848	......	934
			2	......	22.19	74.78	3.03	1.10	4.86	86.65	1.54	2.82	......	8,482	15,268		
			3	......	22.88	77.12	......	1.13	5.01	89.35	1.59	2.92	......	8,747	15,745		
Operator's shipment from mine working Fire Creek and Sewell beds, run of mine (sample 1).	5774	C	1	3.80	21.32	67.30	7.58	.58	4.81	79.02	1.31	6.70	3.0	7,783	14,009	362	......
			2	......	22.16	69.96	7.88	.60	4.56	82.14	1.36	3.46	......	8,091	14,564		
			3	......	24.06	75.94	......	.65	4.95	89.16	1.48	3.76	......	8,783	15,809		
Same (sample 2)............................	5775	C	1	3.73	20.29	70.09	5.89	.58	5.18	80.86	1.39	6.10	2.9	7,940	14,292	362	......
			2	......	21.08	72.80	6.12	.60	4.96	83.99	1.44	2.89	......	8,247	14,845		
			3	......	22.45	77.55	......	.64	5.28	89.47	1.53	3.08	......	8,785	15,813		
Same (sample 3)............................	5776	C	1	5.70	20.48	67.31	6.51	.54	5.18	79.95	1.28	6.54	4.9	7,676	13,817	362	......
			2	......	21.72	71.38	6.90	.57	4.83	84.78	1.36	1.56	......	8,139	14,650		
			3	......	23.33	76.67	......	.61	5.19	91.06	1.46	1.68	......	8,742	15,736		
Same (sample 4)............................	5777	C	1	5.90	20.85	69.81	3.44	.52	5.21	80.45	1.38	9.00	5.1	7,995	14,391	362	......
			2	......	22.16	74.18	3.66	.55	4.83	85.49	1.47	4.00	......	8,496	15,293		
			3	......	23.00	77.00	......	.57	5.01	88.74	1.53	4.15	......	8,819	15,874		
Page, 1½ miles N. 65° E. of, Eagle mine, Eagle or No. 1 Gas bed, 800 feet north 68° E., 250 feet to dip of airway room 10 off airway 8, 59½-inch cut.	6932	A	1	2.39	31.72	61.33	4.56	1.62	5.09	79.85	1.12	7.76	1.6	8,036	14,465	......	935
			2	......	32.50	62.83	4.67	1.66	4.94	81.81	1.15	5.77	......	8,233	14,819		
			3	......	34.09	65.91	......	1.74	5.18	85.82	1.21	6.05	......	8,636	15,545		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
FAYETTE COUNTY—continued.																	
Page—Continued.																	
2½ miles N. 65° E. of, Ansted mine, No. 2 Gas bed (1,100 feet northeast of opening, room 16 off entry 3, 8 feet 11½ inches; cut 8 feet 2 inches).	5439	A	1	2.65	29.69	63.50	4.16	1.29	......	......	......	......	1.9	8,104	14,587	......	936
			2	......	30.50	65.23	4.27	1.33	......	......	......	......	......	8,325	14,985		
			3	......	31.86	68.14	......	1.39	......	......	......	......	......	8,696	15,653		
Same (1,500 feet N. 68° east, room 22 off entry 6; thickness of bed, 9 feet 5¾ inches; sample, 8 feet 5¾ inches).	6933	A	1	3.32	28.88	62.72	5.08	.80	5.29	79.73	1.37	7.73	2.6	7,894	14,209	6	936
			2	......	29.87	64.88	5.25	.83	5.09	82.46	1.42	4.95	......	8,165	14,697		
			3	......	31.52	68.48	......	.88	5.37	87.03	1.50	5.22	......	8,617	15,510		
Page No. 1 mine, Eagle bed (lower bench)	1869	A	1	3.53	29.36	64.77	2.34	.92	......	......	......	......	2.3	......	......	290	937
			2	......	30.43	67.14	2.43	.95	......	......	......	......	......	......	......	336	
			3	......	31.19	68.81	......	.97	......	......	......	......	......	......	......	18	
Same (middle bench)	1870	A	1	2.96	30.23	59.37	7.44	1.04	......	......	......	......	1.8	7,762	13,972	290	937
			2	......	31.15	61.18	7.67	1.07	......	......	......	......	......	7,999	14,398	23	
			3	......	33.74	66.26	......	1.16	......	......	......	......	......	8,663	15,593		
Same (No. 8 airway, 1,100 feet from opening, 60-inch cut).	2178	A	1	4.11	29.08	59.36	7.45	.80	......	......	......	......	3.2	......	......	290	937
			2	......	30.33	61.90	7.77	.83	......	......	......	......	......	......	......		
			3	......	32.89	67.11	......	.90	......	......	......	......	......	......	......		
Same (run of mine)	2004	C	1	5.09	29.07	62.57	3.27	1.03	5.33	78.23	1.51	10.63	3.1	7,839	14,110	290	......
			2	......	30.63	65.92	3.45	1.09	5.02	82.42	1.59	6.43	......	8,259	14,866		
			3	......	31.72	68.28	......	1.13	5.19	85.36	1.65	6.67	......	8,554	15,397		
Page No. 2 mine, Ansted or No. 2 Gas bed (lower bench).	1867	A	1	5.48	29.70	62.53	2.29	.79	......	......	1.41	......	4.5	8,030	14,454	290	937
			2	......	31.42	66.16	2.42	.83	......	......	1.49	......	......	8,495	15,291	336	
			3	......	32.20	67.80	......	.85	......	......	1.53	......	......	8,706	15,671	13	
Same (upper bench)	1868	A	1	2.93	31.95	60.17	4.95	1.22	......	......	......	......	1.9	......	......	290	937
			2	......	32.91	61.99	5.10	1.26	......	......	......	......	......	......	......	23	
			3	......	34.68	65.32	......	1.33	......	......	......	......	......	......	......		
Same (No. 6 entry, 500 feet east, 100-inch cut)	2177	A	1	2.82	31.40	61.37	4.41	1.40	......	......	......	......	1.9	......	......	......	......
			2	......	32.31	63.15	4.54	1.44	......	......	......	......	......	......	......		
			3	......	33.85	66.15	......	1.51	......	......	......	......	......	......	......		
Same (run of mine)	2028	C	1	3.74	31.04	61.31	3.91	.89	5.31	80.50	1.32	8.07	2.6	8,020	14,436	290	......
			2	......	32.25	63.69	4.06	.92	5.08	83.63	1.37	4.94	......	8,332	14,998		
			3	......	33.61	66.39	......	.96	5.29	87.17	1.43	5.15	......	8,684	15,631		
Paral, ½ mile northwest of; Beech Creek mine, Eagle bed (right entry 2, 900 feet from drift mouth, 37½-inch cut).	8173	A	1	3.0	28.0	63.4	5.60	.97	5.34	79.73	1.51	6.85	2.1	7,890	14,210	......	938
			2	......	28.5	65.7	5.77	1.00	5.17	82.20	1.56	4.30	......	8,135	14,650		
			3	......	30.5	69.5	......	1.06	5.49	87.23	1.66	4.56	......	8,635	15,540		

Powellton, 3 miles south of; Vulcan mine, Powellton bed (extreme south side, 6½-foot bed, 5½-foot cut).	1208	A	1	1.98	34.41	59.85	3.76	.85	......	......	......	......	1.0	8,188	14,738	18	939
			2	......	35.11	61.05	3.84	.87	......	......	......	......	......	8,353	15,035	23	
			3	......	36.51	63.49	......	.90	......	......	......	......	......	8,687	15,637	48	
Same (extreme north side, 61-inch bed, 53-inch cut).	1209	A	1	1.77	32.53	62.76	2.94	.74	......	......	......	......	.6	......	......	18	939
			2	......	33.12	63.89	2.99	.75	......	......	......	......	......	......	......	23	
			3	......	34.14	65.86	......	.77	......	......	......	......	......	......	......	48	
Same (run of mine, 30 tons)......	1561	C	1	4.08	28.61	60.73	6.58	.77	5.23	76.89	1.58	8.95	3.1	7,736	13,925	261	......
			2	......	29.83	63.31	6.86	.80	4.98	80.16	1.65	5.55	......	8,065	14,517	48	
			3	......	32.03	67.97	......	.86	5.35	86.06	1.77	5.96	......	8,659	15,586		
Price Hill, Sherwood mine, Sewell bed (main west entry, 3,500 feet southwest of shaft, 41-inch cut).	7989	A	1	2.15	18.43	75.88	3.54	1.01	......	......	......	......	1.4	......	......	......	939
			2	......	18.84	77.54	3.62	1.03	......	......	......	......	......	......	......		
			3	......	19.55	80.45	......	1.07	......	......	......	......	......	......	......		
Same (2,500 feet southwest of shaft, left entry 5, 43¾-inch cut).	7990	A	1	2.86	18.46	76.23	2.45	.78	......	......	......	......	2.2	......	......	......	939
			2	......	19.00	78.48	2.52	.80	......	......	......	......	......	......	......		
			3	......	19.49	80.51	......	.82	......	......	......	......	......	......	......		
Same (composite of Nos. 7989 and 7990)......	8292	......	1	2.58	19.01	75.53	2.88	.90	5.10	84.45	1.45	5.22	1.8	8,265	14,877	......	940
			2	......	19.51	77.53	2.96	.92	4.94	86.69	1.49	3.00	......	8,484	15,271		
			3	......	20.11	79.89	......	.95	5.09	89.33	1.54	3.09	......	8,743	15,737		
Prudence, Prudence mine, Sewell bed (main entry, 1,200 feet east of drift mouth, 62-inch cut).	7915	A	1	3.85	19.40	71.79	4.96	.63	......	......	......	......	2.6	7,911	14,240	......	940
			2	......	20.18	74.66	5.16	.66	......	......	......	......	......	8,227	14,809		
			3	......	21.28	78.72	......	.70	......	......	......	......	......	8,675	15,615		
Same (main air course, 2,000 feet east from drift mouth, 64¾-inch cut).	7916	A	1	4.47	20.59	69.54	5.40	.86	......	......	......	......	3.3	7,795	14,031	......	940
			2	......	21.55	72.80	5.65	.90	......	......	......	......	......	8,159	14,686		
			3	......	22.84	77.16	......	.95	......	......	......	......	......	8,648	15,566		
Same (left entry 2, off right entry 2 off C entry, 1,400 feet south from drift mouth, 52⅜-inch cut).	8218	A	1	4.08	19.01	72.61	4.30	.53	......	......	......	......	2.9	......	......	......	940
			2	......	19.82	75.70	4.48	.55	......	......	......	......	......	......	......		
			3	......	20.75	79.25	......	.58	......	......	......	......	......	......	......		
Same (pillar, room 4, left entry 1 off right entry 1 off main entry B, 2,600 feet east of opening, 60½-inch cut).	8219	A	1	3.18	20.01	71.76	5.05	1.35	......	......	......	......	2.3	......	......	......	940
			2	......	20.67	74.11	5.22	1.39	......	......	......	......	......	......	......		
			3	......	21.81	78.19	......	1.47	......	......	......	......	......	......	......		
Same (composite of Nos. 7915, 7916, 8218, and 8219).	8301	......	1	3.85	19.08	72.05	5.02	.84	5.11	80.72	1.42	6.89	2.8	7,920	14,256	......	941
			2	......	19.84	74.94	5.22	.87	4.87	83.95	1.48	3.61	......	8,237	14,827		
			3	......	20.93	79.07	......	.92	5.14	88.58	1.56	3.80	......	8,691	15,644		
Redstar, Laura mine, Sewell bed (left air course 4, 2,700 feet east of drift mouth, 64-inch cut).	[a] 8001	A	1	9.28	15.98	68.95	5.79	1.19	......	......	......	......	8.8	......	......	......	941
			2	......	17.61	76.01	6.38	1.31	......	......	......	......	......	......	......		
			3	......	18.81	81.19	......	1.40	......	......	......	......	......	......	......		
Same (room 7, left entry 5, 2,800 feet southeast of drift mouth, 66¼-inch cut).	8002	A	1	3.15	18.77	73.41	4.67	.81	......	......	......	......	2.7	......	......	......	941
			2	......	19.38	75.80	4.82	.84	......	......	......	......	......	......	......		
			3	......	20.36	79.64	......	.88	......	......	......	......	......	......	......		
Same (pillar 2, left entry 2, 1,800 feet southeast of drift mouth, 59¾-inch cut).	8003	A	1	2.59	18.62	74.93	3.86	.67	......	......	......	......	2.0	......	......	......	941
			2	......	19.12	76.92	3.96	.69	......	......	......	......	......	......	......		
			3	......	19.91	80.09	......	.72	......	......	......	......	......	......	......		
Same (composite of Nos. 8001–8003.[a])......	8118	......	1	5.24	16.84	73.20	4.72	.86	5.06	80.64	1.34	7.38	4.5	7,840	14,112	......	941
			2	......	17.77	77.25	4.98	.91	4.73	85.10	1.41	2.87	......	8,274	14,893		
			3	......	18.70	81.30	......	.96	4.98	89.56	1.48	3.02	......	8,708	15,674		
Star mine, Sewell bed (7,600 feet southwest of drift mouth, room 16 on right entry 18, 45½-inch section, 43½-inch cut).	5396	A	1	2.79	18.82	75.46	2.93	.70	......	......	......	......	1.9	8,308	14,954	362	942
			2	......	19.36	77.63	3.01	.72	......	......	......	......	......	8,546	15,383		
			3	......	19.96	80.04	......	.74	......	......	......	......	......	8,811	15,860		
Same (6,700 feet southwest of drift mouth, room 12 on left entry 13, 63¼-inch cut).	5397	A	1	2.27	20.52	71.75	5.46	.60	......	......	......	......	1.3	8,146	14,663	362	942
			2	......	21.00	73.41	5.59	.61	......	......	......	......	......	8,335	15,003		
			3	......	22.24	77.76	......	.65	......	......	......	......	......	8,828	15,890		

[a] Sample 8001 very wet on account of water where it was taken.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
FAYETTE COUNTY—continued.																	
Redstar, Star mine—Continued.																	
Same (run of mine, sample 1)	5489	C	1	2.09	19.39	74.63	3.89	0.89	4.88	79.61	1.33	9.40	1.5	8,213	14,783	362	......
			2	......	19.80	76.23	3.97	.91	4.74	81.31	1.36	7.71	......	8,388	15,098		
			3	......	20.62	79.38	......	.95	4.94	84.67	1.42	8.02	......	8,734	15,721		
Same (run of mine, sample 2)	5574	C	1	2.36	18.76	73.74	5.14	.76	4.88	82.53	1.40	5.29	1.8	8,109	14,596	362	......
			2	......	19.21	75.53	5.26	.78	4.73	84.52	1.43	3.28	......	8,305	14,949		
			3	......	20.28	79.72	......	.82	4.99	89.21	1.51	3.47	......	8,766	15,779		
Same (right entry 21, 9,000 feet northeast of drift mouth, 43¾-inch cut).	7988	A	1	2.71	17.87	76.22	3.20	.59	......	......	......	......	2.2	......	......	......	942
			2	......	18.37	78.34	3.29	.61	......	......	......	......	......	......	......		
			3	......	18.99	81.01	......	.63	......	......	......	......	......	......	......		
Same (room 15, left entry 16, 7,500 feet southwest of drift mouth, 49½-inch cut).	7991	A	1	2.46	19.97	75.17	2.40	.63	......	......	......	......	1.7	......	......	......	942
			2	......	20.47	77.07	2.46	.65	......	......	......	......	......	......	......		
			3	......	20.99	79.01	......	.67	......	......	......	......	......	......	......		
Same (room 22, right entry 18, 62½-inch cut)	8656	A	1	2.8	17.5	77.1	2.6	.55	......	......	......	......	2.0	8,265	14,880	......	942
			2	......	18.0	79.3	2.7	.60	......	......	......	......	......	8,505	15,310		
			3	......	18.5	81.5	......	.60	......	......	......	......	......	8,735	15,730		
Same (main entry, 10,800 feet N. 44° W. of drift mouth, 53-inch cut).	8657	A	1	2.4	19.0	74.2	4.4	1.15	......	......	......	......	1.7	8,105	14,590	......	942
			2	......	19.5	76.0	4.5	1.15	......	......	......	......	......	8,305	14,950		
			3	......	20.5	79.5	......	1.25	......	......	......	......	......	8,700	15,660		
Same (composite of Nos. 7988 and 7991)	8296	......	1	2.81	18.96	75.49	2.74	.57	5.05	84.04	1.58	6.02	2.0	8,223	14,801	......	942
			2	......	19.51	77.67	2.82	.59	4.88	86.47	1.63	3.61	......	8,461	15,230		
			3	......	20.08	79.92	......	.61	5.02	88.98	1.68	3.71	......	8,706	15,671		
Robins, Export Mine, Fire Creek bed (right entry 9, 43½-inch cut).	8891	A	1	3.7	16.5	75.7	4.1	.55	......	......	......	......	2.9	8,025	14,450	......	943
			2	......	17.0	78.8	4.2	.55	......	......	......	......	......	8,335	15,010		
			3	......	18.0	82.0	......	.60	......	......	......	......	......	8,705	15,670		
Same (main entry, 1,600 feet from drift mouth, 30½-inch cut).	8285	A	1	3.0	15.5	78.7	2.8	.45	......	......	......	......	2.1	......	......	......	943
			2	......	16.0	81.1	2.9	.45	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	.50	......	......	......	......	......	......	......		
Same (left entry 1, 200 feet from main entry, 23-inch cut).	8284	A	1	3.0	15.5	79.3	2.2	.65	......	......	......	......	2.2	......	......	......	943
			2	......	16.0	81.8	2.2	.70	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	.70	......	......	......	......	......	......	......		
Same (right entry 9, 500 feet from main entry, 44-inch cut).	8286	A	1	2.8	15.0	77.5	4.7	.65	......	......	......	......	1.9	8,085	14,550	......	943
			2	......	15.5	79.7	4.8	.65	......	......	......	......	......	8,320	14,970		
			3	......	16.5	83.5	......	.70	......	......	......	......	......	8,740	15,730		

Same (composite of Nos. 8284 and 8285)	8315	......	1	2.8	16.5	78.2	2.49	.59	5.10	85.24	1.43	5.15	2.2	8,315	14,970	......	943
			2	......	17.0	80.4	2.56	.61	4.92	87.73	1.47	2.71	......	8,560	15,400		
			3	......	17.5	82.5	......	.63	5.05	90.04	1.51	2.77	......	8,785	15,810		
Rush Run, Rush Run mine, Fire Creek (Quinnimont) bed (room 10 off left entry 10, 5½-foot cut).	1175	A	1	2.29	22.65	69.18	5.88	.73	......	......	......	......	1.5	......	......	261	943
			2	......	23.18	70.80	6.02	.75	......	......	......	......	......	......	......	*48*	
			3	......	24.66	75.34	......	.80	......	......	......	......	......	......	......	*28*	
Same (room 22 off right entry 9, 5-foot cut)	1176	A	1	2.10	22.67	71.68	3.55	.75	......	......	......	......	1.6	8,278	14,900	261	943
			2	......	23.16	73.21	3.63	.77	......	......	......	......	......	8,456	15,221	*48*	
			3	......	24.03	75.97	......	.80	......	......	......	......	......	8,774	15,793	*28*	
Same (run of mine, 31 tons)	1390	C	1	1.53	21.54	71.88	5.05	.65	4.76	82.87	1.68	4.99	.9	8,226	14,807	261	......
			2	......	21.87	73.00	5.13	.66	4.66	84.16	1.71	3.68	......	8,354	15,037	*48*	
			3	......	23.05	76.95	......	.70	4.91	88.70	1.80	3.89	......	8,805	15,849		
Scarbro, Scarbro mine, Sewell bed (main southwest entry, 4,500 feet southwest of shaft, 54½-inch cut).	7895	A	1	4.19	17.83	74.31	3.67	.66	......	......	......	......	3.5	7,999	14,398	......	944
			2	......	18.61	77.56	3.83	.69	......	......	......	......	......	8,349	15,028		
			3	......	19.35	80.65	......	.72	......	......	......	......	......	8,681	15,625		
Same (right entry 3 off main north, 3,500 feet northeast of shaft, 52½-inch cut).	7896	A	1	4.73	20.25	69.34	5.68	1.52	......	......	......	......	4.0	7,764	13,975	......	944
			2	......	21.25	72.79	5.96	1.60	......	......	......	......	......	8,149	14,668		
			3	......	22.60	77.40	......	1.70	......	......	......	......	......	8,666	15,599		
Same (pillar 2 off right entry 2 off main northeast entry, 4,000 feet east from shaft, 43-inch cut).	8128	A	1	2.51	20.26	74.88	2.35	.68	......	......	......	......	1.6	......	......	......	944
			2	......	20.78	76.81	2.41	.70	......	......	......	......	......	......	......		
			3	......	21.29	78.71	......	.72	......	......	......	......	......	......	......		
Same (composite of Nos. 7895, 7896, and 8128)	8187	......	1	3.89	19.16	72.97	3.98	.90	4.97	81.59	1.41	7.15	3.0	7,984	14,371	......	944
			2	......	19.94	75.92	4.14	.94	4.72	84.89	1.47	3.84	......	8,307	14,953		
			3	......	20.80	79.20	......	.98	4.92	88.56	1.53	4.01	......	8,666	15,599		
1 mile from; Wingrove mine, Sewell bed (right entry 5, 2,500 feet northeast of shaft, 64-inch cut).	7906	A	1	5.86	18.82	70.76	4.56	.80	......	......	......	......	4.9	7,781	14,006	......	945
			2	......	19.99	75.17	4.84	.85	......	......	......	......	......	8,265	14,877		
			3	......	21.01	78.99	......	.89	......	......	......	......	......	8,686	15,635		
Same (left entry 4, 2,500 feet northwest of shaft, 64½-inch cut).	7907	A	1	6.43	17.78	70.80	4.99	.77	......	......	......	......	5.5	7,681	13,826	......	945
			2	......	19.00	75.67	5.33	.82	......	......	......	......	......	8,209	14,776		
			3	......	20.07	79.93	......	.87	......	......	......	......	......	8,671	15,608		
Same (pillar, main west entry, 2,600 feet west of shaft, 5-foot cut).	8126	A	1	2.68	17.71	76.42	3.19	.60	......	......	......	......	1.9	......	......	......	945
			2	......	18.20	78.52	3.28	.62	......	......	......	......	......	......	......		
			3	......	18.82	81.18	......	.64	......	......	......	......	......	......	......		
Same (right entry 3 off main northwest entry, 2,000 feet from shaft, 58-inch cut).	8597	A	1	2.2	19.5	70.8	7.5	1.45	......	......	......	......	1.5	7,855	14,140	......	945
			2	......	19.5	72.9	7.6	1.50	......	......	......	......	......	8,030	14,450		
			3	......	21.5	78.5	......	1.60	......	......	......	......	......	8,690	15,640		
Same (composite of Nos. 7906, 7907, and 8126)	8183	......	1	5.13	17.77	72.77	4.33	.72	5.01	80.58	1.52	7.84	4.1	7,921	14,258	......	945
			2	......	18.73	76.71	4.56	.76	4.68	84.94	1.60	3.46	......	8,350	15,030		
			3	......	19.63	80.37	......	.80	4.90	89 00	1.68	3.62	......	8,749	15,748		
South Caperton, Southside mine, Sewell bed (straight entry, 5,000 feet from drift mouth, 40½-inch cut).	8151	A	1	3.43	20.98	73.56	2.03	.55	......	......	......	......	2.5	......	......	......	946
			2	......	21.72	76.18	2.10	.57	......	......	......	......	......	......	......		
			3	......	22.19	77.81	......	.58	......	......	......	......	......	......	......		
Same (left entry 5, 7,000 feet from drift mouth, 58½-inch cut).	8152	A	1	3.48	21.38	73.31	1.83	.55	......	......	......	......	2.6	......	......	......	946
			2	......	22.15	75.95	1.90	.57	......	......	......	......	......	......	......		
			3	......	22.58	77.42	......	.58	......	......	......	......	......	......	......		
Same (machine entry, 6,000 feet from drift mouth, 4-foot cut).	8153	A	1	3.23	20.88	73.64	2.25	.57	......	......	......	......	2.5	......	......	......	946
			2	......	21.58	76.09	2.33	.59	......	......	......	......	......	......	......		
			3	......	22.10	77.90	......	.60	......	......	......	......	......	......	......		
Same (composite of Nos 8151-8153)	8185	......	1	3.35	21.25	73.25	2.15	.55	5.11	84.12	1.59	6.48	2.5	8,188	14,738	......	946
			2	......	21.99	75.79	2.22	.57	4.90	87.04	1.65	3.62	......	8,472	15,250		
			3	......	22.49	77.51	......	.58	5.01	89.02	1.69	3.70	......	8,664	15,595		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
FAYETTE COUNTY—continued.																	
South Nuttal, Brown mine, Sewell bed (Wheeler entry, 3,500 feet from drift mouth, 38½-inch cut).	8142	A	1	3.2	21.5	73.4	1.9	0.50	......	......	......	......	2.2	......	......	......	946
			2	......	22.5	75.5	2.0	.50	......	......	......	......	......	......	......		
			3	......	22.5	77.5	......	.50	......	......	......	......	......	......	......		
Same (entry 18, 1,000 feet from drift mouth, 38-inch cut).	8143	A	1	3.3	23.0	71.8	1.9	.45	......	......	......	......	2.6	8,240	14,830	......	946
			2	......	24.0	74.1	1.9	.50	......	......	......	......	......	8,520	15,340		
			3	......	24.5	75.5	......	.50	......	......	......	......	......	8,690	15,640		
Same (Old Locketto entry, 4,000 feet from drift mouth, 42¼-inch cut).	8144	A	1	3.6	21.5	73.0	1.9	.55	......	......	......	......	2.7	......	......	......	946
			2	......	22.5	75.5	2.0	.55	......	......	......	......	......	......	......		
			3	......	22.5	77.5	......	.55	......	......	......	......	......	......	......		
Same (left entry 1, 1,800 feet from drift mouth, 36⅜-inch cut).	8145	A	1	3.3	23.0	70.4	3.3	.65	......	......	......	......	2.3	......	......	......	946
			2	......	23.5	73.1	3.4	.70	......	......	......	......	......	......	......		
			3	......	24.5	75.5	......	.70	......	......	......	......	......	......	......		
Same (entry 18, 1,000 feet from secondary opening, 41½-inch cut).	8607	A	1	3.4	22.0	72.0	2.6	.50	......	......	......	......	2.5	8,180	14,730	......	946
			2	......	23.0	74.3	2.7	.50	......	......	......	......	......	8,465	15,240		
			3	......	23.5	76.5	......	.55	......	......	......	......	......	8,700	15,660		
Same (composite of Nos. 8142, 8144, and 8145)...	8196	......	1	3.3	22.5	71.8	2.43	.58	5.22	84.36	1.54	5.87	2.4	8,215	14,780	......	946
			2	......	23.0	74.5	2.51	.60	5.01	87.22	1.59	3.07	......	8,490	15,280		
			3	......	23.5	76.5	......	.62	5.14	89.46	1.63	3.15	......	8,710	15,680		
Stone Cliff, Stone Cliff mine, Fire Creek bed (room 5, left entry 1 off main entry, 1,400 feet west of drift mouth, $46\frac{11}{16}$-inch cut).	7995	A	1	2.80	17.69	74.02	5.49	.41	......	......	......	......	1.9	......	......	......	947
			2	......	18.20	76.15	5.65	.42	......	......	......	......	......	......	......		
			3	......	19.29	80.71	......	.45	......	......	......	......	......	......	......		
Same (room 1 right entry 1 off main, 1,500 feet north from drift mouth, 62⅜-inch cut).	7998	A	1	2.44	19.03	72.11	6.42	.50	......	......	......	......	1.9	......	......	......	947
			2	......	19.51	73.91	6.58	.51	......	......	......	......	......	......	......		
			3	......	20.88	79.12	......	.55	......	......	......	......	......	......	......		
Same (composite of Nos. 7995 and 7998)..........	8250	......	1	2.63	17.81	73.48	6.08	.46	4.84	82.08	1.32	5.22	1.9	7,934	14,281	......	947
			2	......	18.29	75.47	6.24	.47	4.67	84.30	1.36	2.96	......	8,148	14,666		
			3	......	19.51	80.49	......	.50	4.98	89.91	1.45	3.16	......	8,689	15,640		
Stuart, Stuart mine, Sewell bed (left entry 4, 2,500 feet northeast of shaft, $45\frac{9}{16}$-inch cut).	7872	A	1	2.84	22.79	71.72	2.65	.49	......	......	......	......	1.8	8,177	14,719	......	948
			2	......	23.46	73.81	2.73	.50	......	......	......	......	......	8,416	15,149		
			3	......	24.12	75.88	......	.51	......	......	......	......	......	8,652	15,574		
Same (left entry 1, 1,500 feet northeast of shaft, 55-inch cut).	7873	A	1	3.78	21.20	72.71	2.31	.52	......	......	......	......	2.9	8,168	14,702	......	948
			2	......	22.03	75.57	2.40	.54	......	......	......	......	......	8,489	15,280		
			3	......	22.57	77.43	......	.55	......	......	......	......	......	8,698	15,656		

Same (right entry 3 off main east entry, 1,200 feet southeast of shaft, 34⅜-inch cut).	8079	A	1	3.03	22.45	71.25	3.27	.57	......	......	......	......	2.2	......	......	......	948
			2	......	23.15	73.48	3.37	.59	......	......	......	......	......	......	......		
			3	......	23.96	76.04	......	.61	......	......	......	......	......	......	......		
Same (composite of Nos. 7872, 7873, and 8079)...	8158	......	1	3.39	21.49	72.35	2.77	.60	5.15	83.48	1.53	6.47	2.3	8,146	14,663	......	948
			2	......	22.24	74.89	2.87	.62	4.94	86.41	1.58	3.58	......	8,432	15,178		
			3	......	22.90	77.10	......	.64	5.09	88.96	1.63	3.68	......	8,681	15,626		
½ mile from; Parral mine, Sewell bed (left entry 1, off main east, 800 feet northeast of shaft, 53½-inch cut.)	7875	A	1	2.51	21.94	72.99	2.56	.49	......	......	......	......	1.8	8,292	14.926	......	949
			2	......	22.50	74.87	2.63	.50	......	......	......	......	......	8,505	15,309		
			3	......	23.11	76.89	......	.51	......	......	......	......	......	8,735	15,723		
Same (right entry 3, 2,600 feet northwest of shaft, 51¼-inch cut).	7874	A	1	3.40	20.47	73.09	3.04	.52	......	......	......	......	2.5	8,143	14,657	......	949
			2	......	21.19	75.66	3.15	.54	......	......	......	......	......	8,430	15,174		
			3	......	21.88	78.12	......	.55	......	......	......	......	......	8,704	15,667		
Same (left west entry 2, 1,800 feet southwest of shaft, 45-inch cut).	8084	A	1	1.98	20.96	73.79	3.27	.53	......	......	......	......	1.2	......	......	......	949
			2	......	21.38	75.28	3.34	.54	......	......	......	......	......	......	......		
			3	......	22.12	77.88	......	.56	......	......	......	......	......	......	......		
Same (left entry 1, on east side, 850 feet northeast of shaft, 48½-inch cut).	8967	A	1	2.7	22.0	72.8	2.5	.45	......	......	......	......	2.0	8,280	14,910	......	949
			2	......	22.5	74.9	2.6	.45	......	......	......	......	......	8,510	15,320		
			3	......	23.5	76.5	......	.45	......	......	......	......	......	8,735	15,730		
Same (composite of Nos. 7874, 7875, and 8084)..	8161	......	1	2.59	21.19	73.17	3.05	.57	5.13	83.71	1.57	5.97	1.8	8,210	14,778	......	949
			2	......	21.75	75.12	3.13	.59	4.97	85.94	1.61	3.76	......	8,428	15,170		
			3	......	22.45	77.55	......	.61	5.13	88.72	1.66	3.88	......	8,700	15,660		
Sun, Sun No. 1 mine, Sewell bed (62-inch cut, left main heading).	1197	A	1	2.48	21.28	72.09	4.15	1.08	......	......	......	......	1.7	......	......	13	949
			2	......	21.82	73.92	4.26	1.11	......	......	......	......	......	......	......	28	
			3	......	22.79	77.21	......	1.16	......	......	......	......	......	......	......	*48*	
Same (main entry of "the Straight" 62-inch cut).	1198	A	1	2.12	21.74	72.59	3.55	.90	......	......	1.48	......	1.5	8,286	14,915	*48*	949
			2	......	22.21	74.16	3.63	.92	......	......	1.51	......	......	8,465	15,237		
			3	......	23.05	76.95	......	.96	......	......	1.57	......	......	8,784	15,811		
Same (run of mine, 10 tons)..................	1595	C	1	3.94	19.88	71.25	4.93	1.16	4.60	79.78	1.01	8.52	3.2	7,990	14,382	*48*	......
			2	......	20.70	74.17	5.13	1.21	4.33	83.05	1.05	5.23	......	8,318	14,972		
			3	......	21.82	78.18	......	1.27	4.56	87.54	1.11	5.52	......	8,767	15,781		
Same (run of mine, 5 tons)..................	1609A	C	1	2.57	20.22	68.27	8.94	1.13	......	......	......	......	2.3	......	......	*48*	......
			2	......	20.75	70.07	9.18	1.15	......	......	......	......	......	......	......		
			3	......	22.85	77.15	......	1.26	......	......	......	......	......	......	......		
Same (left air course 9, off main, 3,200 feet S. 85° E. of shaft 2, 59⅛-inch cut).	8099	A	1	2.32	17.60	76.01	4.07	.87	......	......	......	......	1.5	......	......	......	949
			2	......	18.02	77.81	4.17	.89	......	......	......	......	......	......	......		
			3	......	18.80	81.20	......	.93	......	......	......	......	......	......	......		
Same (left entry 7, off main, 2,500 feet S. 60° E. of shaft 2, 6-foot cut).	8206	A	1	3.03	18.00	73.69	5.28	1.54	......	......	......	......	2.3	......	......	......	949
			2	......	18.56	76.00	5.44	1.59	......	......	......	......	......	......	......		
			3	......	19.63	80.37	......	1.68	......	......	......	......	......	......	......		
Same (left air course 9, off Carline entry, 2,600 feet N. 20° E. from shaft 2, 58¼-inch cut).	8207	A	1	2.04	18.97	72.47	6.52	1.75	......	......	......	......	1.4	......	......	......	949
			2	......	19.36	73.98	6.66	1.79	......	......	......	......	......	......	......		
			3	......	20.74	79.26	......	1.92	......	......	......	......	......	......	......		
Same (room 15, off right entry 11, off main 3,000 feet N. 60° E. from shaft 2, 52½-inch cut).	8208	A	1	1.51	19.46	74.08	4.95	2.16	......	......	......	......	.8	......	......	......	949
			2	......	19.76	75.21	5.03	2.19	......	......	......	......	......	......	......		
			3	......	20.81	79.19	......	2.31	......	......	......	......	......	......	......		
Same (left entry 3, off Simpsons entry, 2,800 feet south of shaft 2, 68-inch cut).	8209	A	1	2.59	16.91	74.69	5.81	.81	......	......	......	......	1.9	......	......	......	949
			2	......	17.36	76.68	5.96	.83	......	......	......	......	......	......	......		
			3	......	18.46	81.54	......	.88	......	......	......	......	......	......	......		
Same (Tuckers main air course at left 10, 3,700 feet S. 10° E. of slope 1, 60½-inch cut).	8210	A	1	3.08	16.55	75.87	4.50	.58	......	......	......	......	2.1	......	......	......	949
			2	......	17.08	78.28	4.64	.60	......	......	......	......	......	......	......		
			3	......	17.91	82.09	......	.63	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
FAYETTE COUNTY—continued.																	
Sun, Sun No. 1 mine—Continued.																	
Same (composite of Nos. 8099 and 8206–8210)	8291		1	2.57	18.15	74.16	5.12	1.26	4.87	82.68	1.38	4.69	1.7	8,063	14,513		949
			2		18.63	76.11	5.26	1.29	4.70	84.86	1.42	2.47		8,276	14,897		
			3		19.66	80.34		1.36	4.96	89.57	1.50	2.61		8,735	15,723		
Same (face of Collins heading, off right entry 8).	9614	A	1	6.64	18.73	69.44	5.19	1.93	4.94	78.11	1.44	8.39	6.0	7,670	13,806		949
			2		20.06	74.38	5.56	2.07	4.50	83.66	1.54	2.67		8,215	14,787		
			3		21.24	78.76		2.19	4.77	88.59	1.63	2.82		8,698	15,656		
Same (face of Collins heading, off right entry 8).	9615	A	1	2.94	19.69	68.67	8.70	1.86	4.70	77.66	1.45	5.63	2.3	7,659	13,786		949
			2		20.29	70.75	8.96	1.92	4.50	80.01	1.49	3.12		7,891	14,204		
			3		22.29	77.71		2.11	4.94	87.88	1.64	3.43		8,667	15,601		
Same (face of Simpson entry)	51	A	1	3.36			3.45	.62					2.6	8,121	14,618		949
			2				3.58	.64						8,404	15,127		
			3					.66						8,716	15,689		
Same	52	A	1	3.80			3.85	.85					3.0	8,049	14,488		949
			2				4.00	.88						8,367	15,061		
			3					.92						8,716	15,689		
Same	50	A	1	3.21			2.83	.44					2.4	8,195	14,751		949
			2				2.92	.45						8,467	15,241		
			3					.46						8,722	15,700		
Same (composite of Nos. 50–52)	127		1	3.49			3.38	.77	4.90	83.15	1.40	6.40	2.7	8,119	14,614		949
			2				3.50	.80	4.67	86.16	1.45	3.42		8,413	15,143		
			3					.83	4.84	89.29	1.50	3.54		8,718	15,692		
Thayer, Ephraims Creek mine, Fire Creek bed (room 1, Slater Hill haulway, 2,300 feet northeast of drift mouth, 46½-inch cut).	8167	A	1	4.85	15.96	70.94	8.25	.87					4.0				951
			2		16.77	74.56	8.67	.91									
			3		18.36	81.64		1.00									
Same (room 2, left entry 2, off left entry 9, 3,200 feet northwest of drift mouth, 43½-inch cut).	8174	A	1	2.87	17.43	74.29	5.41	.74					2.2				951
			2		17.94	76.49	5.57	.76									
			3		19.00	81.00		.80									
Same (right entry 9, off right entry 2, 3,400 feet north of drift mouth, 41½-inch cut).	8175	A	1	3.17	15.41	76.36	5.06	.54					2.1				951
			2		15.91	78.86	5.23	.56									
			3		16.79	83.21		.59									
Same (1,000 feet west of drift mouth, 3-foot cut).	8199	A	1	3.37	16.54	74.44	5.65	.64					2.6				951
			2		17.12	77.03	5.85	.66									
			3		18.18	81.82		.70									

Same (north entry, 5,000 feet from drift mouth, 42¾-inch cut).	8213	A	1	3.57	17.96	72.34	6.13	.75	......	......	......	......	2.8	......	......	......	951
			2	......	18.62	75.02	6.36	.78	......	......	......	......	......	......	......		
			3	......	19.88	80.12	......	.83	......	......	......	......	......	......	......		
Same (composite of Nos. 8167, 8174, 8175, 8199, and 8213).	8290	......	1	3.6	16.83	73.42	6.15	.67	4.92	81.03	1.55	5.68	2.7	7,898	14,216	......	951
			2	......	17.46	76.16	6.38	.69	4.69	84.05	1.61	2.58	......	8,193	14,747		
			3	......	18.65	81.35	......	.74	5.01	89.77	1.72	2.76	......	8,751	15,752		
Thurmond, 1 mile from; Newlyn mine, Fire Creek bed (room 5, on entry 2, 500 feet west of drift mouth, 32½-inch cut).	8600	A	1	3.3	18.5	76.0	2.2	.60	......	......	......	......	2.6	8,310	14,960	......	952
			2	......	19.0	78.7	2.3	.60	......	......	......	......	......	8,595	15,470		
			3	......	19.5	80.5	......	.60	......	......	......	......	......	8,790	15,820		
1½ miles northwest of; Minden No. 1 mine, Fire Creek bed (pillar, right entry 2, 1,000 feet from drift mouth, 71½-inch cut).	8240	A	1	2.79	16.64	75.22	5.35	.60	......	......	......	......	2.1	......	......	362	953
			2	......	17.12	77.38	5.50	.62	......	......	......	......	......	......	......		
			3	......	18.12	81.88	......	.66	......	......	......	......	......	......	......		
Same (pillar, left entry 3, 1,200 feet southeast from drift mouth, 65¾-inch cut).	8241	A	1	2.94	18.06	73.10	5.90	.58	......	......	......	......	2.2	......	......	362	953
			2	......	18.61	75.31	6.08	.60	......	......	......	......	......	......	......		
			3	......	19.81	80.19	......	.64	......	......	......	......	......	......	......		
Same (composite of Nos. 8240 and 8241)........	8300	......	1	3.05	17.32	74.00	5.63	.57	4.97	81.56	1.57	5.70	2.2	8,012	14,422	362	953
			2	......	17.87	76.32	5.81	.59	4.78	84.13	1.62	3.07	......	8,264	14,875		
			3	......	18.97	81.03	......	.63	5.07	89.32	1.72	3.26	......	8,774	15,793		
2 miles west of; Echo (Beury) mine, Fire Creek bed (Baltimore heading, left entry 5, 1½ miles from drift mouth, 53¾-inch cut).	8242	A	1	3.20	16.46	75.14	5.20	.51	4.93	81.83	1.49	6.04	2.5	7,982	14,368	......	953
			2	......	17.00	77.63	5.37	.53	4.72	84.54	1.53	3.31	......	8,246	14,843		
			3	......	17.96	82.04	......	.56	4.99	89.33	1.62	3.50	......	8,714	15,685		
Same (Echo 2, Klondike drift, left entry 1, 1,900 feet from drift mouth, 51⅝-inch cut).	8243	A	1	3.43	16.87	75.22	4.48	.56	5.14	81.95	1.45	6.42	2.7	7,983	14,369	......	953
			2	......	17.47	77.89	4.64	.58	4.93	84.86	1.50	3.49	......	8,266	14,879		
			3	......	18.32	81.68	......	.60	5.17	88.99	1.57	3.67	......	8,669	15,604		
Same (composite of Nos. 8242 and 8243)........	8289	......	1	3.3	16.5	75.3	4.85	.56	4.90	82.16	1.57	5.96	2.6	8,030	14,460	......	953
			2	......	17.5	77.5	5.01	.58	4.67	84.97	1.62	3.15	......	8,305	14,950		
			3	......	18.0	82.0	......	.61	4.92	89.45	1.71	3.31	......	8,745	15,740		
3 miles northwest of; Rush Run mine, Quinnimont or Fire Creek bed (5,700 feet south of drift mouth, room 18 on tenth right entry, 61½-inch cut).	5327	A	1	3.35	18.65	73.69	4.31	.51	......	......	......	......	2.1	8,237	14,827	362	
			2	......	19.30	76.24	4.46	.53	......	......	......	......	......	8,523	15,341		954
			3	......	20.20	79.80	......	.55	......	......	......	......	......	8,921	16,058		
Same (4,500 feet southwest of drift mouth, room 23 on eighth right entry, 61-inch cut).	5328	A	1	2.97	18.96	74.60	3.47	.60	......	......	......	......	1.9	8,321	14,978	362	954
			2	......	19.54	76.88	3.58	.62	......	......	......	......	......	8,576	15,437		
			3	......	20.27	79.73	......	.64	......	......	......	......	......	8,894	16,009		
Same (run of mine, first car)..................	5436	C	1	2.04	18.96	71.75	7.25	.75	4.80	80.83	1.49	4.88	1.5	7,919	14,254	362	......
			2	......	19.35	73.25	7.40	.77	4.67	82.51	1.52	3.13	......	8,084	14,551		
			3	......	20.90	79.10	......	.83	5.04	89.10	1.64	3.39	......	8,730	15,714		
Same (run of mine, second car)................	5438	C	1	2.05	18.63	73.52	5.80	.57	4.86	81.58	1.43	5.76	1.5	8,066	14,519	362	......
			2	......	19.02	75.06	5.92	.58	4.73	83.29	1.46	4.02	......	8,235	14,823		
			3	......	20.22	79.78	......	.62	5.03	88.53	1.55	4.27	......	8,753	15,755		
Same (left entry 7, 65½-inch cut)...............	8096	A	1	2.8	17.94	74.33	4.93	.75	......	......	......	......	1.9	......	......	......	954
			2	......	18.46	76.47	5.07	.77	......	......	......	......	......	......	......		
			3	......	19.45	80.55	......	.81	......	......	......	......	......	......	......		
Same (room 4, right air course 11, 5,000 feet from drift mouth, 55¼-inch cut).	8097	A	1	2.8	18.86	73.83	4.51	.91	......	......	......	......	1.9	......	......	......	954
			2	......	19.40	75.96	4.64	.94	......	......	......	......	......	......	......		
			3	......	20.34	79.66	......	.99	......	......	......	......	......	......	......		
Same (pillar, right entry 7, 3,500 feet from drift mouth, 61⅜-inch cut).	8100	A	1	2.64	18.80	74.31	4.25	.72	......	......	......	......	1.8	......	......	......	954
			2	......	19.31	76.32	4.37	.74	......	......	......	......	......	......	......		
			3	......	20.19	79.81	......	.77	......	......	......	......	......	......	......		
Same (composite of Nos. 8096, 8097, and 8100)..	8160	......	1	2.68	19.05	73.79	4.48	.68	5.04	82.78	1.60	5.42	1.9	8,039	14,470	......	954
			2	......	19.57	75.83	4.60	.70	4.87	85.06	1.64	3.13	......	8,260	14,868		
			3	......	20.51	79.49	......	.73	5.10	89.16	1.72	3.29	......	8,658	15,584		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
FAYETTE COUNTY—continued.																	
Thurmond—Continued.																	
3½ miles west of; Red Ash mine, Fire Creek bed (cross entry 1 off left entry 10, 1½ miles from drift mouth, 4½-foot cut).	8070	A	1	2.45	18.68	75.28	3.59	0.58	......	......	......	......	1.8	......	......	......	955
			2	......	19.15	77.17	3.68	.59	......	......	......	......	......	......	......		
			3	......	19.88	80.12	......	.61	......	......	......	......	......	......	......		
Same (pillar, room 1, left entry 7, 1½ miles south from drift mouth, 64½-inch cut).	8071	A	1	4.36	16.42	74.94	4.28	.52	......	......	......	......	3.6	......	......	......	955
			2	......	17.17	78.35	4.48	.54	......	......	......	......	......	......	......		
			3	......	17.98	82.02	......	.57	......	......	......	......	......	......	......		
Same (1½ miles southwest of drift mouth, 79-inch cut).	8072	A	1	3.19	17.45	70.84	8.52	.72	......	......	......	......	2.1	......	......	......	955
			2	......	18.02	73.18	8.80	.74	......	......	......	......	......	......	......		
			3	......	19.76	80.24	......	.81	......	......	......	......	......	......	......		
Same (composite of Nos. 8070-8072)............	8108	......	1	3.29	17.85	73.39	5.47	.59	4.87	81.36	1.46	6.25	2.5	7,931	14,276	......	955
			2	......	18.46	75.88	5.66	.61	4.65	84.13	1.51	3.44	......	8,201	14,762		
			3	......	19.57	80.43	......	.65	4.93	89.18	1.60	3.64	......	8,693	15,647		
Turkey Knob, Turkey Knob mine, Sewell bed (left entry 15, 6,000 feet S. 80° E. from drift mouth, 77½-inch cut).	8035	A	1	3.34	18.07	75.82	2.77	.51	......	......	......	......	2.6	......	......	......	956
			2	......	18.70	78.43	2.87	.53	......	......	......	......	......	......	......		
			3	......	19.25	80.75	......	.55	......	......	......	......	......	......	......		
Same (room 10, off right entry 14, 6,000 feet S. 30° E. from drift mouth, 55½-inch cut).	8036	A	1	3.31	18.43	76.10	2.16	.56	......	......	......	......	2.6	......	......	......	956
			2	......	19.06	78.71	2.23	.58	......	......	......	......	......	......	......		
			3	......	19.49	80.51	......	.59	......	......	......	......	......	......	......		
Same (haul-way off right entry 7, 4,000 feet S. 30° E. from drift mouth, 52½-inch cut).	8048	A	1	2.79	18.93	74.59	3.69	1.61	......	......	......	......	2.3	......	......	......	956
			2	......	19.47	76.73	3.80	1.66	......	......	......	......	......	......	......		
			3	......	20.24	79.76	......	1.73	......	......	......	......	......	......	......		
Same (pillar, room 19, left entry 12, 5,400 feet east of drift mouth, 60½-inch cut).	8047	A	1	3.01	16.95	77.40	2.64	.51	......	......	......	......	2.30	......	......	......	956
			2	......	17.48	79.80	2.72	.53	......	......	......	......	......	......	......		
			3	......	17.97	82.03	......	.54	......	......	......	......	......	......	......		
Same (composite of Nos. 8035, 8036, 8047, and 8048).	8103	......	1	3.22	19.22	74.82	2.74	.77	4.93	84.42	1.41	5.73	2.5	8,231	14,816	......	956
			2	......	19.86	77.31	2.83	.80	4.72	87.23	1.46	2.96	......	8,505	15,309		
			3	......	20.44	79.56	......	.82	4.86	89.77	1.50	3.05	......	8,752	15,754		
Whipple, Whipple mine, Sewell bed (entry 1, rock heading district, 4,000 feet north of shaft, 52½-inch cut).	7889	A	1	2.41	20.58	71.64	5.37	1.06	......	......	......	......	1.2	7,962	14,332	......	957
			2	......	21.09	73.41	5.50	1.09	......	......	......	......	......	8,159	14,686		
			3	......	22.31	77.69	......	1.15	......	......	......	......	......	8,634	15,541		
Same (room 14, entry 16, 3,000 feet west of shaft, 5-foot cut).	7890	A	1	2.51	19.67	71.32	6.50	.92	......	......	......	......	1.5	7,884	14,191	......	957
			2	......	20.18	73.15	6.67	.94	......	......	......	......	......	8,087	14,557		
			3	......	21.62	78.38	......	1.01	......	......	......	......	......	8,665	15,597		

Same (right entry 3 off main dip entry, 50-inch cut).	8098	A	1	2.98	19.19	74.84	2.99	1.05	......	......	......	......	2.1	......	......	......	957
			2	......	19.78	77.14	3.08	1.08	......	......	......	......	......	......	......		
			3	......	20.41	79.59	......	1.11	......	......	......	......	......	......	......		
Same (left entry 1 off Harvey's entry, 58½-inch cut).	8599	A	1	2.7	20.5	72.8	4.0	.60	......	......	......	......	2.0	8,145	14,660	......	957
			2	......	21.0	74.9	4.1	.65	......	......	......	......	......	8,375	15,070		
			3	......	21.5	78.5	......	.65	......	......	......	......	......	8,735	15,720		
Same (composite of Nos. 7889, 7890, and 8098)...	8157	......	1	2.67	20.06	72.09	5.18	1.02	4.78	82.32	1.47	5.23	1.6	8,021	14,438	......	957
			2	......	20.61	74.07	5.32	1.05	4.60	84.58	1.51	2.94	......	8,241	14,834		
			3	......	21.77	78.23	......	1.11	4.86	89.33	1.59	3.11	......	8,704	15,667		
Winona, Smokeless mine, Sewell bed (1,800 feet southeast of drift mouth, left entry 1 for motor hauls, 46¼-inch cut).	5467	A	1	3.22	23.53	71.16	2.09	.57	......	......	......	......	2.4	8,211	14,780	362	958
			2	......	24.31	73.53	2.16	.59	......	......	......	......	......	8,484	15,271	385	
			3	......	24.85	75.15	......	.60	......	......	......	......	......	8,671	15,608		
Same (2,500 feet south of drift mouth, first right, off main, 44½-inch cut).	5468	A	1	3.34	23.67	71.15	1.84	.56	......	......	......	......	2.4	8,185	14,733	362	958
			2	......	24.49	73.61	1.90	.58	......	......	......	......	......	8,468	15,242	385	
			3	......	24.96	75.04	......	.59	......	......	......	......	......	8,632	15,538		
Same (run of mine, first car).....................	5709	C	1	3.98	23.21	67.41	5.40	.66	5.31	79.56	1.34	7.73	3.0	7,910	14,238	362	......
			2	......	24.17	70.21	5.62	.69	5.01	82.85	1.40	4.43	......	8,238	14,828		
			3	......	25.61	74.39	......	.73	5.31	87.79	1.48	4.69	......	8,729	15,712		
Same (run of mine, second car)...................	5711	C	1	4.71	23.80	66.18	5.31	.68	5.09	78.53	1.37	9.02	3.9	7,836	14,105	362	......
			2	......	24.98	69.45	5.57	.71	4.80	82.41	1.44	5.07	......	8,223	14,801		
			3	......	26.45	73.55	......	.75	5.08	87.27	1.52	5.38	......	8,708	15,674		
Same (Adams entry, 2,200 feet from drift mouth, 44-inch cut).	8132	A	1	3.19	23.04	71.54	2.23	.68	......	......	......	......	1.9	......	......	......	958
			2	......	23.80	73.90	2.30	.70	......	......	......	......	......	......	......		
			3	......	24.36	75.64	......	.72	......	......	......	......	......	......	......		
Same (left entry 3, 2,000 feet from drift mouth, 52½-inch cut).	8133	A	1	3.71	21.77	72.05	2.47	.68	......	......	......	......	2.3	......	......	......	958
			2	......	22.61	74.82	2.57	.71	......	......	......	......	......	......	......		
			3	......	23.21	76.79	......	.73	......	......	......	......	......	......	......		
Same (pillar, left cross entry 15 off old hill main entry, 1,500 feet from drift mouth, 45-inch cut).	8134	A	1	3.13	23.22	71.73	1.92	.57	......	......	......	......	1.8	......	......	......	958
			2	......	23.97	74.05	1.98	.59	......	......	......	......	......	......	......		
			3	......	24.45	75.55	......	.60	......	......	......	......	......	......	......		
Same (composite of Nos. 8132, 8133, and 8134)..	8186	......	1	3.41	22.54	71.81	2.24	.61	5.10	84.02	1.66	6.37	2.0	8,172	14,710	......	958
			2	......	23.34	74.34	2.32	.63	4.89	86.99	1.72	3.45	......	8,460	15,228		
			3	......	23.9	76.1	......	.64	5.01	89.06	1.76	3.53	......	8,661	15,590		
½ mile from; Dubree mine, Sewell bed (room 7, right entry 7, 38⅞-inch cut).	8147	A	1	2.8	24.5	69.7	3.0	.50	......	......	......	......	2.0	......	......	......	959
			2	......	25.0	71.9	3.1	.55	......	......	......	......	......	......	......		
			3	......	26.0	74.0	......	.55	......	......	......	......	......	......	......		
Same (left entry 7, 40⅞-inch cut)................	8148	A	1	3.2	23.5	68.8	4.5	.65	......	......	......	......	2.3	......	......	......	959
			2	......	24.5	70.9	4.6	.65	......	......	......	......	......	......	......		
			3	......	25.5	74.5	......	.70	......	......	......	......	......	......	......		
Same (composite of Nos. 8147 and 8148).........	8191	......	1	3.0	24.5	68.7	3.78	.59	5.02	81.61	1.55	7.45	2.2	8,025	14,450	......	959
			2	......	25.0	71.1	3.9	.61	4.83	84.13	1.60	4.93	......	8,275	14,890		
			3	......	26.0	74.0	......	.63	5.03	87.55	1.66	5.13	......	8,610	15,490		
HANCOCK COUNTY.																	
Zalia, country bank, Mahoning bed, entire seam, 40-inch cut).	1594	A	1	4.15	36.76	49.91	9.18	5.10	......	......	......	......	2.9	......	......	*48*	960
			2	......	38.35	52.07	9.58	5.32	......	......	......	......	......	......	......		
			3	......	42.41	57.59	......	5.88	......	......	......	......	......	......	......		
Country bank, Rogers or Lower Freeport bed, entire seam, 3-foot cut.	1572	A	1	6.46	33.88	49.74	9.92	5.04	......	......	......	......	4.0	......	......	*48*	960
			2	......	36.22	53.17	10.61	5.39	......	......	......	......	......	......	......		
			3	......	40.52	59.48	......	6.03	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
HARRISON COUNTY.																	
Clarksburg, Pitcairn mine, Pittsburgh bed (fourth left entry, 105½-inch cut).	1103	A	1	1.98	40.54	48.40	9.08	4.20			1.28		0.9	7,481	13,466	261	960
			2		41.36	49.38	9.26	4.28			1.31			7,632	13,738	48	
			3		45.58	54.42		4.72			1.44			8,411	15,140	22	
Same (third right entry, 85-inch cut)	1104	A	1	1.87	40.30	49.73	8.10	3.75					.8			261	960
			2		41.07	50.68	8.25	3.82								48	
			3		44.76	55.24		4.16									
Same (run of mine, 11 tons)	1308	C	1	1.95	39.94	50.25	7.86	3.48	5.13	74.07	1.36	8.10	.5	7,661	13,790	261	
			2		40.73	51.25	8.02	3.55	5.01	75.54	1.39	6.49		7,813	14,063	48	
			3		44.28	55.72		3.86	5.44	82.13	1.51	7.06		8,495	15,291		
3 miles east of; Ocean mine, Pittsburgh bed (2,750 feet northwest of drift mouth, butt entry 2 off face entry 3, 74½-inch cut).	2039	A	1	2.8	38.51	53.14	5.55	2.40					1.5	7,836	14,105	290	961
			2		39.62	54.67	5.71	2.47						8,062	14,512	336	
			3		42.02	57.98		2.62						8,550	15,390	22	
Same (2,025 feet northeast of drift mouth, room 7 off butt entry 3, 77½-inch cut).	2040	A	1	3.27	37.72	53.27	5.74	2.41					1.9			290	•961
			2		39.00	55.07	5.93	2.49									
			3		41.46	58.54		2.65									
Same (run of mine)	2195	C	1	2.01	37.31	52.13	8.55	2.54	5.08	75.83	1.43	6.57	.9	7,673	13,811	290	
			2		38.08	53.19	8.73	2.59	4.96	77.39	1.46	4.87		7,830	14,094		
			3		41.72	58.28		2.84	5.43	84.79	1.60	5.34		8,579	15,442		
KANAWHA COUNTY.																	
Acme, Keystone mine, No. 2 Gas bed (4,600 feet east of drift mouth, left entry 8, 56½-inch cut).	2375	A	1	2.66	33.30	59.60	4.44	1.14					1.4	7,982	14,368	290	961
			2		34.21	61.23	4.56	1.17						8,200	14,760	336	
			3		35.84	64.16		1.23						8,592	15,466	18	
Same (3,500 feet east of drift mouth, room 16 off fifth right entry, 67½-inch cut).	2376	A	1	2.84	33.18	58.75	5.23	1.35					1.6			290	961
			2		34.15	60.47	5.38	1.39								22	
			3		36.09	63.91		1.47									
Same (run of mine, sample 1)	2556	C	1	2.82	32.20	56.95	8.03	1.38	5.16	76.74	1.34	7.35	2.1	7,648	13,766	290	
			2		33.13	58.61	8.26	1.42	4.99	78.97	1.38	4.98		7,870	14,166		
			3		36.12	63.88		1.55	5.44	86.08	1.50	5.43		8,579	15,442		
			4						5.53	87.43	1.53	5.51		8,678	15,620		
Same (run of mine, sample 2)	2626	C	1	2.89	32.53	56.95	7.63	1.50					1.9			290	
			2		33.50	58.64	7.86	1.54									
			3		36.36	63.64		1.67									
Charleston, 8 miles southeast of Black Band No. 2	4290	A	1	3.46	34.55	53.79	8.20	.58					1.8			332	962

mine; Black Band or Winifrede bed (1,300 feet south of opening, 32¾-inch cut).			2	......	35.79	55.72	8.49	.60	......	......	......	......	......	......	......		
			3	......	39.11	60.89	......	.66	......	......	......	......	......	......	......	18	
Same (800 feet west of opening, 34¾-inch cut)...	4291	A	1	3.91	34.83	54.48	6.78	.64	......	......	......	......	2.1	7,484	13,471	332	962
			2	......	36.25	56.69	7.06	.67	......	......	......	......	......	7,789	14,020		
			3	......	39.01	60.99	......	.72	......	......	......	......	......	8,379	15,082		
Same (lump, over 1¼-inch screen)............	4360	C	1	4.21	35.41	53.16	7.22	.64	5.16	72.89	1.40	12.69	2.3	7,433	13,379	332	......
			2	......	36.97	55.49	7.54	.67	4.90	76.09	1.46	9.34	......	7,760	13,968		
			3	......	39.98	60.02	......	.72	5.30	82.30	1.58	10.10	......	8,391	15,107		
			4	......	......	......	......	......	5.33	82.90	1.59	10.18	......	8,437	15,187		
Hernshaw, Butler mine, No. 2 Gas bed, car sample, through 1¼-inch screen.	3711	C	1	4.59	33.38	52.23	9.80	1.01	5.23	72.01	1.15	10.80	2.9	7,131	12,836	......	......
			2	......	34.99	54.74	10.27	1.06	4.95	75.47	1.21	7.04	......	7,474	13,453		
			3	......	38.99	61.01	......	1.18	5.52	84.11	1.35	7.84	......	8,330	14,993		
Marmet mine (400 feet east of opening, 62-inch cut).	3456	A	1	2.75	35.49	56.27	5.49	.63	......	......	......	......	.9	7,674	13,813	332	963
			2	......	36.49	57.86	5.65	.65	......	......	......	......	......	7,891	14,204	23	
			3	......	38.68	61.32	......	.69	......	......	......	......	......	8,363	15,053		
ame (1,200 feet east of opening, 43-inch cut)....	3457	A	1	3.49	33.67	56.40	6.44	.63	......	......	......	......	1.5	......	......	332	963
			2	......	34.89	58.44	6.67	.65	......	......	......	......	......	......	......		
			3	......	37.38	62.62	......	.70	......	......	......	......	......	......	......		
Same (slack through 1¼-inch screen)...........	3905	C	1	3.42	33.49	55.27	7.82	.83	5.17	74.49	1.20	10.49	2.0	7,492	13,486	332	......
			2	......	34.68	57.22	8.10	.86	4.96	77.13	1.24	7.71	......	7,757	13,963		
			3	......	37.73	62.27	......	.94	5.40	83.92	1.35	8.39	......	8,440	15,192		
			4	......	......	......	......	......	5.45	84.72	1.36	8.47	......	8,499	15,298		
Monarch; Monarch mine, Cedar Grove bed (1,500 feet north of opening, 37½-inch cut).	3458	A	1	3.13	35.51	57.82	3.54	.59	......	......	......	......	1.4	7,757	13,963	332	963
			2	......	36.66	59.69	3.65	.61	......	......	......	......	......	8,008	14,414	336	
			3	......	38.05	61.95	......	.63	......	......	......	......	......	8,311	14,960	23	
Same (1,500 feet northwest of opening, 38-inch cut).	3459	A	1	4.17	35.36	54.17	6.30	1.24	......	......	......	......	2.5	......	......	332	963
			2	......	36.90	56.53	6.57	1.29	......	......	......	......	......	......	......		
			3	......	39.49	60.51	......	1.38	......	......	......	......	......	......	......		
Same (slack through 1¼-inch screen)..........	3625	C	1	3.25	34.61	54.56	7.58	1.22	5.23	75.27	1.43	9.27	1.7	7,513	13,523	332	......
			2	......	35.77	56.40	7.83	1.26	5.03	77.80	1.48	6.60	......	7,765	13,977		
			3	......	38.82	61.18	......	1.37	5.46	84.42	1.60	7.15	......	8,426	15,167		
			4	......	......	......	......	......	5.54	85.58	1.63	7.25	......	8,512	15,322		
Same (run of mine)........................	3965	C	1	2.05	34.71	55.14	8.10	1.35	5.08	75.56	1.18	8.73	.6	7,615	13,707	332	......
			2	......	35.44	56.29	8.27	1.38	4.95	77.14	1.21	7.05	......	7,775	13,995		
			3	......	38.63	61.37	......	1.50	5.40	84.10	1.31	7.69	......	8,475	15,255		
Winifrede, Gas mine, Peerless bed (1,400 feet southeast of drift mouth, room 12 off left entry 3, 32⅛-inch cut).	2377	A	1	3.57	36.76	56.05	3.62	1.14	......	......	......	......	2.0	7,874	14,173	290	964
			2	......	38.12	58.13	3.75	1.18	......	......	......	......	......	8,165	14,697	336	
			3	......	39.61	60.39	......	1.23	......	......	......	......	......	8,484	15,271	23	
Same (800 feet southeast of drift mouth, room 10 off left entry 1, 26¾-inch cut).	2378	A	1	3.72	35.95	56.21	4.12	1.16	......	......	......	......	2.3	......	......	290	964
			2	......	37.34	58.38	4.28	1.20	......	......	......	......	......	......	......		
			3	......	39.01	60.99	......	1.25	......	......	......	......	......	......	......		
Same (run of mine)........................	2572	C	1	3.57	36.38	55.20	4.85	1.32	5.33	77.49	1.49	9.52	2.1	7,749	13,948	290	......
			2	......	37.73	57.24	5.03	1.37	5.11	80.36	1.55	6.58	......	8,036	14,465		
			3	......	39.72	60.28	......	1.44	5.38	84.61	1.63	6.94	......	8,461	15,230		
			4	......	......	......	......	......	5.46	85.85	1.65	7.04	......	8,552	15,394		
LOGAN COUNTY.																	
Holden, 1 mile east of; No. 3 mine, Island Creek (No. 2 Gas) bed (right entry 1, off main, 74 11/16-inch bed, 57 11/16-inch cut).	7658	B	1	1.60	33.70	57.86	6.84	1.27	5.11	76.65	1.26	8.87	......	7,732	13,918	......	965
			2	......	34.25	58.80	6.95	1.29	5.01	77.90	1.28	7.57	......	7,858	14,144		
			3	......	36.81	63.19	......	1.39	5.38	83.72	1.38	8.13	......	8,445	15,201		
Same (1,600 feet northeast of opening, left entry 3, off main, 77-inch bed, 58⅜-inch cut).	7659	B	1	1.66	32.89	59.94	5.51	.93	5.16	78.97	1.26	8.17	......	7,848	14,126	......	965
			2	......	33.45	60.95	5.60	.95	5.06	80.30	1.28	6.81	......	7,980	14,364		
			3	......	35.43	64.57	......	1.01	5.36	85.06	1.36	7.21	......	8,453	15,215		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
M'DOWELL COUNTY.																	
Algoma, 1 mile from; Piney mine, Pocahontas No. 3 bed (air way off big 4 entry, 74¼-inch cut).	8324	A	1 2 3	2.87	12.94 13.32 14.31	77.48 79.77 85.69	6.71 6.91	0.62 .64 .69					2.4				966
Same (main entry, 63½-inch cut)	8323	A	1 2 3	2.63	12.78 13.13 13.94	78.92 81.05 86.06	5.67 5.82	.48 .49 .52					2.1				966
Same (air course, cross entry 6, 61¼-inch cut)	8322	A	1 2 3	2.87	13.23 13.62 14.46	78.25 80.56 85.54	5.65 5.82	.44 .45 .48					2.2				966
Same (room 31, off cross entry 4, 72-inch cut)	8321	A	1 2 3	3.2	13.5 14.0 15.0	77.6 80.1 85.0	5.66 5.85	.52 .54 .57	4.55 4.33 4.60	83.33 86.10 91.45	1.11 1.15 1.22	4.83 2.03 2.16	2.5	7,980 8,245 8,755	14,360 14,835 15,760		966
Same (composite of Nos. 8322-8324)	8428		1 2 3	2.99	12.65 13.04 13.90	78.35 80.76 86.10	6.01 6.20	.50 .52 .55	4.73 4.54 4.84	82.91 85.46 91.11	1.07 1.10 1.17	4.78 2.18 2.33	2.3	7,999 8,245 8,790	14,398 14,841 15,820		966
Anawalt, 1 mile northwest of; Anawalt mine, Pocahontas No. 3 bed (right entry 1, 450 feet from drift mouth, 85½-inch cut).	8643	A	1 2 3	3.5	14.0 14.5 15.0	79.5 82.4 85.0	3.0 3.1	.65 .65 .65					2.9				966
Same (main entry, 350 feet from drift mouth, 91½-inch cut).	8644	A	1 2 3	4.3	13.5 14.0 14.5	78.9 82.6 85.5	3.3 3.4	.60 .65 .65					3.5				966
Same (composite of Nos. 8643 and 8644)	8747		1 2 3	4.0	15.0 15.5 16.0	77.7 81.1 84.0	3.25 3.38	.61 .64 .66	4.70 4.44 4.60	84.29 87.75 90.82	1.14 1.19 1.23	6.01 2.60 2.69	3.2	8,190 8,525 8,822	14,740 15,350 15,880		966
Arlington, Arlington mine, Pocahontas No. 3 bed (pillar 7, room 16, cross entry 10, 58¼-inch cut).	8325	A	1 2 3	2.9	14.0 14.0 15.0	78.6 81.3 85.0	4.5 4.7	.45 .45 .50					2.3				967
Same (pillar 7, cross entry 8, 56-inch cut)	8326	A	1 2 3	3.3	13.5 14.0 14.5	79.1 81.7 85.5	4.1 4.3	.45 .45 .50					2.8				967
Same (main entry, 57½-inch cut)	8363	A	1 2 3	3.2	14.0 14.5 15.5	77.3 79.8 84.5	5.5 5.7	.50 .50 .55					2.4				967

Same (cross entry 8, off diagonal 1, 64-inch cut).	8364	A		4.2	14.0	77.2	4.6	.50	......	......	......	......	3.3	......	......	......	967
			2	......	14.5	80.7	4.8	.50	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.55	......	......	......	......	......	......	......		
Same (cross entry 12, off Burkes garden entry, 58½-inch cut).	8365	A	1	3.6	14.0	78.5	3.9	.45	......	......	......	......	2.7	......	......	......	967
			2	......	14.5	81.5	4.0	.45	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.45	......	......	......	......	......	......	......		
Same (composite of Nos. 8363–8365)	8419	......	1	3.6	13.5	78.2	4.70	.45	4.58	83.65	1.08	5.54	2.8	8,045	14,480	......	967
			2	......	14.0	81.1	4.88	.46	4.34	86.80	1.12	2.40	......	8,350	15,030		
			3	......	14.5	85.5	......	.48	4.56	91.25	1.18	2.53	......	8,775	15,800		
Same (composite of Nos. 8325 and 8326)	8418	......	1	3.3	13.0	79.3	4.36	.48	4.60	83.92	1.04	5.60	2.6	8,125	14,630	......	967
			2	......	13.5	82.0	4.51	.50	4.38	86.81	1.07	2.73	......	8,405	15,130		
			3	......	14.5	85.5	......	.52	4.59	90.91	1.12	2.86	......	8,805	15,850		
Ashland, Ashland mine, Pocahontas No. 3 bed (room 27, off entry 2, off Tadpole entry, 54½-inch cut).	8477	A	1	4.2	14.0	76.1	5.7	.45	......	......	......	......	3.1	7,855	14,143	......	968
			2	......	14.5	79.5	6.0	.50	......	......	......	......	......	8,200	14,760		
			3	......	15.5	84.5	......	.50	......	......	......	......	......	8,720	15,690		
Same (room 2, cross entry 1, off Wheeling entry, 53½-inch cut).	8478	A	1	3.1	14.0	79.0	3.9	.55	......	......	......	......	2.4	8,145	14,660	......	968
			2	......	14.0	82.0	4.0	.55	......	......	......	......	......	8,405	15,130		
			3	......	15.0	85.0	......	.55	......	......	......	......	......	8,755	15,760		
Same (room 1, cross entry 1, off entry 8, 55-inch cut).	8479	A	1	3.7	14.0	78.8	3.5	.55	......	......	......	......	2.7	8,085	14,550	......	968
			2	......	14.5	81.9	3.6	.55	......	......	......	......	......	8,390	15,100		
			3	......	15.0	85.0	......	.55	......	......	......	......	......	8,705	15,670		
Same (room 16, cross entry 4, off Ohio entry St. Louis panel, 51½-inch cut).	8491	A	1	3.1	14.0	78.5	4.4	.65	......	......	......	......	2.5	......	......	......	968
			2	......	14.5	80.9	4.6	.70	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.70	......	......	......	......	......	......	......		
Same (Virginia entry, 53-inch cut)	8492	A	1	2.9	15.0	77.1	5.0	.80	......	......	......	......	2.3	......	......	......	968
			2	......	15.5	79.3	5.2	.80	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	.85	......	......	......	......	......	......	......		
Same (composite of Nos. 8477–8479 and 8491–8494).	8929	......	1	2.8	14.5	77.4	5.33	.64	4.56	83.39	1.03	5.05	2.2	8,082	14,550	......	968
			2	......	14.5	80.0	5.48	.66	4.37	85.80	1.06	2.63	......	8,316	14,970		
			3	......	15.5	84.5	......	.70	4.62	90.78	1.12	2.78	......	8,798	15,840		
¾ mile north of; Cherokee mine, Pocahontas No. 3 bed (main air course 2, 61-inch cut).	8526	A	1	4.1	13.0	79.3	3.6	.50	......	......	......	......	3.5	......	......	......	969
			2	......	13.5	82.8	3.7	.55	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.55	......	......	......	......	......	......	......		
Same (right entry 4, off main entry, 56-inch cut).	8527	A	1	2.6	13.5	80.0	3.9	.50	......	......	......	......	2.0	......	......	......	969
			2	......	13.5	82.5	4.0	.55	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.55	......	......	......	......	......	......	......		
Same (left entry 5, off main entry 1, 58½-inch cut).	8528	A	1	2.5	14.0	79.7	3.8	.50	......	......	......	......	1.9	......	......	......	969
			2	......	14.5	81.6	3.9	.50	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.55	......	......	......	......	......	......	......		
Same (pillar 26, left entry 2, off main entry 1, 46½-inch cut).	8529	A	1	3.0	13.5	78.9	4.6	.50	......	......	......	......	2.3	8,120	14,620	......	969
			2	......	14.0	81.3	4.7	.50	......	......	......	......	......	8,375	15,080		
			3	......	14.5	85.5	......	.55	......	......	......	......	......	8,790	15,820		
Same (composite of Nos. 8526–8528)	8679	......	1	3.2	12.5	80.6	3.67	.51	4.60	85.23	1.13	4.86	2.5	8,190	14,740	......	969
			2	......	13.0	83.2	3.79	.53	4.39	88.00	1.17	2.12	......	8,455	15,220		
			3	......	13.5	86.5	......	.55	4.56	91.47	1.22	2.20	......	8,790	15,820		
1 mile east of; Monitor mine, Pocahontas No. 3 bed (Kentucky air course, 5,500 feet S. 86° E. of drift mouth, 60½-inch cut).	8493	A	1	2.5	14.0	76.5	7.0	.55	......	......	......	......	1.9	......	......	......	969
			2	......	14.5	78.4	7.1	.60	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.60	......	......	......	......	......	......	......		
Same (Pennsylvania entry, 4,800 feet N. 71° E. of drift mouth, 63½-inch cut).	8494	A	1	2.4	14.5	77.9	5.2	.65	......	......	......	......	1.9	......	......	......	969
			2	......	15.0	79.7	5.3	.65	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.70	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
M'DOWELL COUNTY—continued.																	
Ashland, **Monitor mine—Continued.**																	
Same (pillar 20, cross entry 3, off Pennsylvania entry, 52½-inch cut).	8495	A	1	2.6	15.0	77.6	4.8	0.50	......	......	......	......	2.0	8,125	14,630	......	969
			2	......	15.5	79.6	4.9	.50	......	......	......	......	......	8,340	15,020		
			3	......	16.0	84.0	......	.55	......	......	......	......	......	8,770	15,790		
Same (pillar 15, cross entry 3, off Kentucky entry, Andrew panel, 53¾-inch cut).	8496	A	1	2.6	15.0	78.1	4.3	.55	......	......	......	......	2.0	8,165	14,700	......	969
			2	......	15.5	80.0	4.5	.55	......	......	......	......	......	8,385	15,100		
			3	......	16.5	83.5	......	.60	......	......	......	......	......	8,780	15,800		
Bear Wallow, near (Worth post office); Roanoke mine, Pocahontas No. 3 bed (pillar 69, Klondike entry, 6,700 feet N. 59° E. of drift mouth, 57-inch cut).	8700	A	1	2.9	13.0	79.4	4.7	.45	......	......	......	......	2.2	......	......	......	970
			2	......	13.5	81.7	4.8	.45	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.45	......	......	......	......	......	......	......		
Same (entry 15, off diagonal entry off main, 6,200 feet N. 40° E. of drift mouth, 58-inch cut).	8701	A	1	3.1	13.0	80.0	3.9	.45	......	......	......	......	2.4	......	......	......	970
			2	......	13.5	82.4	4.1	.45	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.50	......	......	......	......	......	......	......		
Same (pillar 19, cross entry 3, off China entry, 2,200 feet N. 40° E. of drift mouth, 56½-inch cut).	8727	A	1	2.9	13.5	79.4	4.2	.55	......	......	......	......	2.2	......	......	......	970
			2	......	14.0	81.6	4.4	.55	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.60	......	......	......	......	......	......	......		
Same (cross air course 6, off China entry, 3,600 feet N. 25° E. of drift mouth, 55½-inch cut).	8726	A	1	3.0	13.0	79.7	4.3	.50	......	......	......	......	2.3	......	......	......	970
			2	......	13.5	82.0	4.5	.50	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.55	......	......	......	......	......	......	......		
Same (composite of Nos. 8701 and 8726)........	8792	......	1	3.0	13.5	79.3	4.19	.47	4.54	82.87	1.10	6.83	2.4	8,125	14,620	......	970
			2	......	14.0	81.7	4.32	.48	4.33	85.47	1.13	4.27	......	8,380	15,080		
			3	......	15.0	85.0	......	.50	4.53	89.33	1.18	4.46	......	8,755	15,760		
Same (composite of Nos. 8700 and 8727)........	8793	......	1	3.0	13.5	79.1	4.43	.49	4.56	83.95	1.09	5.48	2.2	8,145	14,660	......	970
			2	......	14.0	81.4	4.57	.50	4.36	86.52	1.12	2.93	......	8,390	15,110		
			3	......	15.0	85.0	......	.52	4.57	90.66	1.17	3.08	......	8,795	15,830		
Big Sandy, Big Sandy mine, Sewell bed (right entry 2, off left entry 2, 3,500 feet N. 30° E. from drift mouth, 38½-inch cut).	8828	A	1	4.9	15.0	75.9	4.2	.60	......	......	......	......	4.2	......	......	......	971
			2	......	15.5	80.1	4.4	.65	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.65	......	......	......	......	......	......	......		
Same (pillar, cross entry 3, off right entry 1, 1,350 feet S. 35° E. of drift mouth, 42¾-inch cut).	8829	A	1	5.0	15.0	76.1	3.9	.70	......	......	......	......	4.3	8,025	14,450	......	971
			2	......	15.5	80.4	4.1	.75	......	......	......	......	......	8,450	15,210		
			3	......	16.0	84.0	......	.75	......	......	......	......	......	8,805	15,850		
Same (pillar, right entry 3, 2,900 feet S. 45° E. from drift mouth, 46-inch cut).	8830	A	1	3.0	14.5	78.6	3.9	.70	......	......	......	......	2.3	8,205	14,770	......	971
			2	......	15.0	81.0	4.0	.70	......	......	......	......	......	8,460	15,220		
			3	......	16.0	84.0	......	.75	......	......	......	......	......	8,815	15,870		

Same (main entry, 5,000 feet S. 70° E. of drift mouth, 43½-inch cut).	8827	A	1	3.8	14.5	77.5	4.2	.65					3.0				971
			2		15.0	80.6	4.4	.65									
			3		16.0	84.0		.70									
Same (left entry 13, 3,500 feet east of drift mouth, 43½-inch cut).	8826	A	1	3.6	14.5	79.1	2.8	.50					2.9				971
			2		15.5	81.6	2.9	.55									
			3		15.5	84.5		.55									
Same (composite of Nos. 8826–8828)	8934		1	4.1	15.0	77.1	3.78	.64	4.72	83.53	1.35	5.98	3.4	8,100	14,580		971
			2		16.0	80.1	3.94	.67	4.44	87.11	1.41	2.43		8,445	15,200		
			3		16.5	83.50		.70	4.62	90.68	1.47	2.53		8,790	15,820		
Same, No. 8 or Tug River bed (right entry 3, 3½-foot cut).	1238	A	1	1.92	19.36	74.33	4.39	.52					1.6	8,292	14,926	260	971
			2		19.74	75.78	4.48	.53						8,454	15,217	*48*	
			3		20.67	79.33		.55						8,850	15,930	13	
Same (right entry 5, 43-inch cut)	1242	A	1	3.48	18.89	73.73	3.90	.73					2.9	8,184	14,731	261	971
			2		19.57	76.39	4.04	.76						8,479	15,262	*48*	
			3		20.39	79.61		.79						8,836	15,905	23	
Same (run-of-mine, 40 tons)	1364	C	1	1.72	17.85	73.56	6.87	.68	4.43	82.71	1.33	3.98	1.1	8,095	14,571	261	
			2		18.16	74.85	6.99	.69	4.31	84.16	1.35	2.50		8,237	14,827	*48*	
			3		19.53	80.47		.74	4.64	90.48	1.46	2.68		8,856	15,941		
			4						4.67	91.16	1.47	2.70		8,904	16,027		
Carretta, Carretta mine, Beckley bed (main butt west entry 1, 45-inch cut).	8630	A	1	2.50	12.01	74.11	11.38	.52					1.9				973
			2		12.32	76.01	11.67	.53									
			3		13.94	86.06		.60									
Same (main east butt entry, 1,000 feet from drift mouth, 49-inch cut).	8631	A	1	2.37	12.45	74.94	10.24	.65					1.7				973
			2		12.75	76.76	10.49	.67									
			3		14.24	85.76		.75									
Same (main south entry, 1,100 feet from drift mouth, 49½-inch cut).	8632	A	1	2.28	12.33	75.26	10.13	.57					1.6				973
			2		12.62	77.01	10.37	.58									
			3		14.08	85.92		.65									
Same (composite of Nos. 8630–8632)	8696		1	2.35	12.36	74.55	10.74	.59	4.25	78.31	1.17	4.94	1.7	7,579	13,642		973
			2		12.66	76.34	11.00	.60	4.09	80.20	1.20	2.91		7,762	13,972		
			3		14.22	85.78		.67	4.60	90.11	1.35	3.27		8,721	15,698		
Coalwood, Coalwood No. 1 mine, Welch bed (room 2, entry 4, 49-inch cut).	8503	A	1	2.02	14.61	74.88	8.49	.56					1.7				973
			2		14.91	76.43	8.66	.57									
			3		16.32	83.68		.62									
Same (room 17, cross entry 4, 56-inch cut)	8504	A	1	2.09	14.34	74.74	8.83	.56					1.5				973
			2		14.65	76.33	9.02	.57									
			3		16.10	83.90		.63									
Same (room 2, cross entry 8, 4½-foot cut)	8505	A	1	2.14	14.37	74.90	8.59	.58					1.6				973
			2		14.68	76.54	8.78	.58									
			3		16.09	83.91		.65									
Same (composite of Nos. 8503–8505)	8593		1	2.19	13.91	75.25	8.65	.57	4.45	80.69	1.19	4.45	1.6	7,775	13,995		973
			2		14.22	76.94	8.84	.58	4.30	82.50	1.22	2.56		7,949	14,308		
			3		15.60	84.40		.64	4.72	90.50	1.34	2.80		8,720	15,696		
Coalwood No. 2 mine, Welch bed (entry 7, off main entry, 43-inch cut).	8654	A	1	1.99	14.32	74.11	9.58	.59					1.4				973
			2		14.61	75.62	9.77	.60									
			3		16.19	83.81		.66									
Same (right butt entry 1, off east main entry, 35-inch cut).	8653	A	1	2.04	13.84	76.20	7.92	.51					1.3				973
			2		14.13	77.79	8.08	.52									
			3		15.37	84.63		.57									
Same (room 6, right entry 1, off west main entry, 43-inch cut).	8652	A	1	2.75	13.38	75.41	8.46	.48					1.8				973
			2		13.76	77.54	8.70	.49									
			3		15.07	84.93		.54									

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
M'DOWELL COUNTY—continued.																	
Coalwood, Coalwood No 2 mine—Continued.																	
Same (composite made by mixing 8652, 8653, 8654).	8697	A	1	2.29	13.71	75.20	8.80	0.54	4.31	79.98	1.22	5.15	1.5	7,753	13,955	......	973
			2	......	14.03	76.96	9.01	.55	4.16	81.85	1.25	3.18	......	7,934	14,281		
			3	......	15.42	84.58	......	.60	4.57	89.95	1.37	3.51	......	8,719	15,694		
Coalwood No. 4 mine, Welch bed (right entry 4, 47-inch cut).	8665	A	1	2.33	13.45	76.67	7.55	.61	......	......	......	......	1.6	......	......	......	973
			2	......	13.77	78.50	7.73	.62	......	......	......	......	......	......	......		
			3	......	14.92	85.08	......	.67	......	......	......	......	......	......	......		
Same (room 15, main air course, 55-inch cut)...	8664	A	1	2.33	13.66	78.17	5.84	.53	......	......	......	......	1.7	......	......	......	973
			2	......	13.99	80.03	5.98	.54	......	......	......	......	......	......	......		
			3	......	14.88	85.12	......	.57	......	......	......	......	......	......	......		
Same (right entry 12, 41-inch cut)............	8663	A	1	2.19	13.58	75.62	8.61	.49	......	......	......	......	1.4	......	......	......	973
			2	......	13.88	77.32	8.80	.50	......	......	......	......	......	......	......		
			3	......	15.22	84.78	......	.55	......	......	......	......	......	......	......		
Same (composite of Nos. 8663–8665)...........	8698	......	1	2.40	13.04	77.22	7.34	.52	4.39	81.29	1.31	5.15	1.6	7,890	14,202	......	973
			2	......	13.36	79.12	7.52	.53	4.22	83.29	1.34	3.10	......	8,084	14.551		
			3	......	14.45	85.55	......	.57	4.56	90.06	1.45	3.36	......	8,741	15,734		
Crumpler, Zenith mine, Pocahontas No. 3 bed (Texas heading 2, 3,600 feet east of drift mouth, 49¾-inch cut).	8645	A	1	3.3	14.5	78.4	3.8	.45	......	......	......	......	2.6	......	......	......	975
			2	......	15.0	81.1	3.9	.50	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.50	......	......	......	......	......	......	......		
Same (room 20, right entry 1, off main entry, 2,700 feet S. 45° E. of drift mouth, 53½-inch cut).	8646	A	1	3.6	14.0	78.0	4.4	.50	......	......	......	......	2.9	......	......	......	975
			2	......	14.5	80.9	4.6	.50	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.55	......	......	......	......	......	......	......		
Same (Pennsylvania entry, 3,150 feet N. 35° E. of drift mouth, 46½-inch cut).	8692	A	1	3.2	14.5	77.2	5.1	.50	......	......	......	......	2.5	......	......	......	975
			2	......	15.0	79.8	5.2	.50	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.55	......	......	......	......	......	......	......		
Same (Wisconsin air course, 3,000 feet N. 10° W. of drift mouth, 4½-foot cut).	8693	A	1	4.0	14.5	77.4	4.1	.45	......	......	......	......	3.2	......	......	......	975
			2	......	15.0	80.7	4.3	.45	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.50	......	......	......	......	......	......	......		
Same (composite of Nos. 8645, 8646, 8692, and 8693).	8724	......	1	3.5	14.5	77.7	4.31	.50	4.55	83.72	1.09	5.83	2.8	8,100	14,580	......	975
			2	......	15.0	80.5	4.47	.52	4.31	86.78	1.18	2.79	......	8,395	15,110		
			3	......	15.5	84.5	......	.54	4.51	90.84	1.18	2.93	......	8,785	15,820		
Davy, ¼ mile southeast of (Hallsville post office); Blackstone mine "Thin Vein" (3,000 feet south drift mouth, main entry, 44-inch cut).	5276	A	1	2.87	14.91	78.39	3.83	.81	......	......	......	......	1.9	8,227	14,809	362	976
			2	......	15.35	80.71	3.94	.83	......	......	......	......	......	8,470	15,246	385	
			3	......	15.98	84.02	......	.86	......	......	......	......	......	8,817	15,871		

Same (2,400 feet west of drift mouth, seventh right entry, 39½-inch cut).	5277	A	1	3.58	15.01	78.44	2.97	.62	......	......	......	......	2.7	8,235	14,823	362	976
			2	......	15.57	81.35	3.08	.64	......	......	......	......	......	8,540	15,372	385	
			3	......	16.07	83.93	......	.66	......	......	......	......	......	8,812	15,862		
Same (left entry 16, 3,700 feet from the drift mouth, 45½-inch cut).	8513	A	1	3.6	13.5	78.5	4.4	.60	......	......	......	......	2.9	......	......	......	976
			2	......	14.0	81.4	4.6	.60	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.65	......	......	......	......	......	......	......		
Same (right entry 3, off cross entry 4 off right entry 6, 3,650 feet from drift mouth, 39¾-inch cut).	8514	A	1	3.6	14.0	79.1	3.3	.65	......	......	......	......	2.9	......	......	......	976
			2	......	14.5	82.1	3.4	.65	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.70	......	......	......	......	......	......	......		
Same (pillar, room 5, on right entry 1, off cross entry 4, off right entry 6, 3,000 feet from drift mouth, 43½-inch cut, pillar sample).	8516	A	1	3.3	15.0	78.6	3.1	.55	......	......	......	......	2.7	......	......	......	976
			2	......	15.5	81.3	3.2	.55	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.60	......	......	......	......	......	......	......		
Same (room 15, left entry 8, 2,550 feet from drift mouth, pillar sample, 35½-inch cut).	8517	A	1	3.1	14.5	78.7	3.7	.80	......	......	......	......	2.3	......	......	......	976
			2	......	15.0	81.2	3.8	.85	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.85	......	......	......	......	......	......	......		
Same (left entry 8, 3,650 feet from drift mouth, 30½-inch cut).	8515	A	1	4.2	14.0	78.1	3.7	.55	......	......	......	......	3.5	......	......	......	976
			2	......	14.5	81.7	3.8	.60	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.60	......	......	......	......	......	......	......		
Same (composite, made by mixing Nos. 8513, 8514, and 8515).	8590	A	1	3.7	13.5	78.9	3.85	.60	4.71	83.18	1.27	6.39	3.1	8,120	14,620	......	976
			2	......	14.0	82.0	4.00	.62	4.46	86.37	1.32	3.23	......	8,435	15,180		
			3	......	15.0	85.0	......	.65	4.65	89.97	1.38	3.35	......	8,785	15,810		
Same (composite, made by mixing Nos. 8516 and 8517).	8589	A	1	3.2	14.5	79.0	3.32	.69	4.73	84.14	1.37	5.75	2.5	8,200	14,760	......	976
			2	......	15.0	81.6	3.43	.71	4.52	86.92	1.42	3.00	......	8,470	15,250		
			3	......	15.5	84.5	......	.74	4.68	90.01	1.47	3.10	......	8,770	15,790		
Same (run of mine, first car)................	5334	C	1	1.92	15.41	74.65	8.02	.68	4.77	81.31	1.26	3.96	1.2	7,931	14,276	362	......
			2	......	15.71	76.11	8.18	.69	4.65	82.90	1.28	2.30	......	8,086	14,555		
			3	......	17.11	82.89	......	.75	5.06	90.29	1.39	2.51	......	8,806	15,851		
Same (run of mine, second car)...............	5459	C	1	1.52	15.01	76.19	7.28	.62	4.55	82.51	1.12	3.92	.9	8,024	14,443	362	......
			2	......	15.24	77.37	7.39	.63	4.45	83.78	1.14	2.61	......	8,148	14,666		
			3	......	16.46	83.54	......	.68	4.81	90.47	1.23	2.81	......	8,798	15,836		
No. 1 mine, "Thin Vein" (room 3, right entry 6, 1,200 feet southwest of drift mouth, 38½-inch cut).	4288	A	1	3.07	16.90	75.58	4.45	.72	......	......	......	......	2.5	......	......	......	977
			2	......	17.44	77.97	4.59	.74									
			3	......	18.28	81.72	......	.77	......	......	......	......	......	......	......		
Same (room 2, left entry 12, 9,700 feet south of drift mouth, 44⅛-inch cut).	4289	A	1	3.32	16.12	74.71	5.85	.61	......	......	......	......	2.8	8,012	14,422	......	978
			2	......	16.67	77.28	6.05	.63	......	......	......	......	......	8,287	14,917		
			3	......	17.74	82.26	......	.67	......	......	......	......	......	8,821	15,878		
½ mile north of; Helena mine, Sewell bed (right entry 1 off left entry 1, 600 feet from drift mouth, 33¾-inch cut).	8628	A	1	3.7	14.5	78.8	3.0	.50	......	......	......	......	2.9	......	......	......	978
			2	......	15.0	81.9	3.1	.55	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.55	......	......	......	......	......	......	......		
Same (main entry, 1,200 feet from drift mouth 32-inch cut).	8629	A	1	3.9	13.0	79.5	3.6	.55	......	......	......	......	3.3	......	......	......	978
			2	......	13.5	82.7	3.8	.55	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.59	......	......	......	......	......	......	......		
Same (composite of Nos. 8628 and 8629)........	8748	......	1	3.9	13.5	79.2	3.43	.55	4.70	83.91	1.43	5.98	3.1	8,190	14,740	......	978
			2	......	14.0	82.4	3.57	.57	4.44	87.27	1.49	2.66	......	8,520	15,330		
			3	......	14.5	85.5	......	.59	4.60	90.50	1.55	2.76	......	8,835	15,900		
1 mile north of; (new) Davy Crockett mine, Sewell bed. (Crosscut 3, left entry 1, drift 2, 1,100 feet from drift mouth, 3-foot cut).	8625	A	1	3.4	15.0	77.1	4.5	.75	......	......	......	......	2.8	......	......	......	978
			2	......	15.5	79.8	4.7	.75	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	.80	......	......	......	......	......	......	......		
Same (right entry 14, drift 1, 1,850 feet from drift mouth, 37½-inch cut).	8626	A	1	3.1	15.0	77.8	4.1	.70	......	......	......	......	2.5	......	......	......	978
			2	......	15.5	80.3	4.2	.75	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.75	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
M'DOWELL COUNTY—continued.																	
Davy, (new) Davy Crockett mine—Continued.																	
Same (right entry 7, drift 1, 1,450 feet from drift mouth, 34¾-inch cut).	8627	A	1	3.6	14.5	78.1	3.8	0.50	......	......	......	......	3.0	......	......	......	978
			2	......	15.0	81.1	3.9	.55	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.55	......	......	......	......	......	......	......		
Same (composite of Nos. 8625–8627)............	8746	......	1	3.6	14.5	77.7	4.23	.65	4.71	82.84	1.31	6.26	2.8	8,090	14,570	......	978
			2	......	15.0	80.6	4.39	.67	4.47	85.90	1.36	3.21	......	8,390	15,100		
			3	......	15.5	84.5	......	.70	4.68	89.84	1.42	3.36	......	8,775	15,800		
1½ miles southeast of; Cletus mine, Sewell bed (main drift 2, 1,000 feet from drift mouth, 34¾-inch cut).	8511	A	1	3.8	14.0	78.4	3.80	.55	......	......	......	......	3.3	......	......	......	979
			2	......	14.5	81.5	4.0	.55	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.55	......	......	......	......	......	......	......		
Same (main drift 1, 800 feet from the drift mouth, 36½-inch cut).	8512	A	1	3.5	14.5	79.1	2.9	.70	......	......	......	......	3.0	......	......	......	979
			2	......	15.0	82.0	3.0	.70	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.70	......	......	......	......	......	......	......		
Same (composite of Nos. 8511 and 8512).........	8591	......	1	3.9	14.5	78.2	3.39	.62	4.73	83.63	1.27	6.36	3.2	8,170	14,700	......	979
			2	......	15.0	81.5	3.53	.65	4.47	87.06	1.32	2.97	......	8,505	15,310		
			3	......	15.5	84.5	......	.67	4.63	90.25	1.37	3.08	......	8,815	15,870		
Dearing, near; Black Wolf mine, Pocahontas No. 4 bed (right air course 3, 1,200 feet from drift mouth, 64½-inch cut).	8518	A	1	3.4	13.5	78.4	4.7	.60	......	......	......	......	2.8	......	......	......	979
			2	......	14.0	81.1	4.9	.65	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.65	......	......	......	......	......	......	......		
Same (Roanoke entry, 1,200 feet from drift mouth, 5-foot cut).	8519	A	1	3.5	13.5	78.9	4.1	.75	......	......	......	......	3.1	......	......	......	979
			2	......	14.0	81.7	4.3	.80	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.85	......	......	......	......	......	......	......		
Same (Lynchburg entry, 1,200 feet from drift mouth, 65-inch cut).	8520	A	1	3.2	15.5	75.8	5.5	.65	......	......	......	......	2.8	......	......	......	979
			2	......	16.0	78.3	5.7	.70	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	.70	......	......	......	......	......	......	......		
Same (composite of Nos. 8518–8520)............	8594	......	1	3.4	14.0	77.8	4.77	.69	4.58	82.36	1.02	6.58	2.9	8,080	14,550	......	979
			2	......	14.5	80.6	4.94	.71	4.35	85.26	1.06	3.68	......	8,365	15,060		
			3	......	15.5	84.5	......	.75	4.58	89.69	1.12	3.86	......	8,800	15,840		
East Vivian, Peerless mine, Pocahontas No. 3 bed (air course, entry 18, off entry 10, 6-foot cut).	8572	A	1	3.1	13.0	79.3	4.6	.60	......	......	......	......	2.5	......	......	......	980
			2	......	13.5	81.7	4.8	.60	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.65	......	......	......	......	......	......	......		
Same (air course 28, off entry 10, 75½-inch cut)..	8753	A	1	3.0	13.0	78.8	5.2	.70	......	......	......	......	2.3	......	......	......	980
			2	......	13.5	81.1	5.4	.70	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.75	......	......	......	......	......	......	......		

Same (pillar 16, entry 22, east side, 68-inch cut).	8754	A	1	3.2	12.0	80.4	4.4	.55					2.5	8,115	14,600		980
			2		12.5	82.9	4 6	.60						8,385	15,090		
			3		13.0	87.0		.60						8,785	15,820		
Same (entry 4 on east side, 65½-inch cut)	8755	A	1	3.1	13.0	79.0	4.9	.55					2.5				980
			2		13.5	81.4	5.1	.60									
			3		14.0	86.0		.60									
Same (break-through off room 53 off entry 67, off entry 8, 73½-inch cut).	8756	A	1	2.6	13.0	78.7	5.7	.65					1.9	8,055	14,500		980
			2		13.5	80.7	5.8	.70						8,270	14,890		
			3		14.3	85.7		.70						8,780	15,810		
Same (break-through, entry 1, 67½-inch cut)	8580	A	1	2.6	13.5	79.2	4.7	.60					2.1				980
			2		14.0	81.1	4.9	.60									
			3		14.5	85.5		.65									
Same (composite of Nos. 8572, 8580, 8753, and 8755.	8849		1	3.0	13.5	78.5	4.98	.59	4.43	84.28	1.09	4.63	2.4	8,085	14,550		980
			2		14.0	80.9	5.13	.61	4.22	86.90	1.12	2.02		8,335	15,010		
			3		14.5	85.5		.64	4.45	91.60	1.18	2.13		8,785	15,820		
Eckman, Shawnee mine, Pocahontas No. 3 bed (entry 2, off entry 17, off main entry, 4,800 feet from drift mouth, 6½-foot cut).	8784	A	1	3.5	13.0	78.6	4.9	.60					2.8				981
			2		13.5	81.4	5.1	.60									
			3		14.0	86.0		.65									
Same (room 13, off Blue Ridge entry, 5,400 feet S. 10° W. of drift mouth, 76½-inch cut).	8775	A	1	3.2	13.5	78.5	4.8	.55					2.3				981
			2		13.5	81.6	4.9	.55									
			3		14.5	85.5		.60									
Same (right entry 2, off entry 22, off main entry, 6,200 feet S. 10° W. of drift mouth, 75½-inch cut).	8774	A	1	3.1	12.0	79.6	5.3	.60					2.5				981
			2		12.5	82.0	5.5	.60									
			3		13.5	86.5		.65									
Same (room 50, off entry 13, 7,200 feet S. 30° W. of drift mouth, 73½-inch cut).	8773	A	1	2.9	12.5	79.3	5.3	.65					2.3				981
			2		13.0	81.5	5.5	.65									
			3		13.5	86.5		.70									
Same (room 15, off main entry 2, 6,700 feet S. 15° W. of drift mouth, 77½-inch cut).	8772	A	1	3.1	13.0	78.5	5.4	.60					2.4				981
			2		13.5	81.0	5.5	.65									
			3		14.5	85.5		.65									
Same (composite of Nos. 8772–8775 and 8784)	8842		1	3.3	13.5	78.0	5.17	.59	4.54	83.50	1.16	5.04	2.5	8,045	14,480		981
			2		14.0	80.7	5.34	.60	4.32	86.31	1.20	2.23		8,315	14,970		
			3		14.5	85.5		.63	4.56	91.18	1.27	2.36		8,785	15,810		
One-fourth mile south of; Pulaski No. 1 mine, Pocahontas No. 3 bed (pillar, main entry, 1,000 feet from drift mouth, 77-inch cut).	9010	A	1	3.2	13.5	78.3	5.0	.50					2.3				982
			2		14.0	80.9	5.1	.55									
			3		15.0	85.0		.55									
Same (pillar, entry 2½, off cross entry 1, off main entry, 1,500 feet from drift mouth, 78½-inch cut).	9011	A	1	2.8	13.5	79.4	4.3	.65					1.8				982
			2		14.0	81.6	4.4	.65									
			3		14.5	85.5		.70									
Same (composite of Nos. 9010 and 9011)	9036		1	3.0	13.5	78.8	4.73	.62	4.44	84.15	1.11	4.95	2.1	8,120	14,610		982
			2		14.0	81.1	4.88	.64	4.24	86.73	1.14	2.37		8,370	15,060		
			3		14.5	85.5		.67	4.48	91.18	1.20	2.47		8,795	15.840		
1 mile southeast of; Pulaski No. 2 mine, Pocahontas No. 3 bed (last break-through on main entry 6,000 feet in, 84½-inch bed).	9302	A	1	3.07	15.24	74.47	7.22	.53					2.5				983
			2		15.72	76.83	7.45	.55									
			3		16.99	83.01		.59									
Same (room 5 pillar, right entry 8, off main entry 1, 4,400 feet in, 77½-inch bed).	9303	A	1	4.54	15.08	76.19	4.19	.54					4.1				983
			2		15.80	79.81	4.39	.57									
			3		16.53	83.47		.60									
Same (room 15 pillar, cross entry 3, off right entry 7, 4,000 feet in, 76½-inch bed).	9304	A	1	2.88	16.15	75.30	5.67	.48					2.4				983
			2		16.63	77.53	5.84	.49									
			3		17.66	82.34		.52									

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
M'DOWELL COUNTY—continued.																	
Eckman, Pulaski No. 2 mine—Continued.																	
Same (room 10, cross entry 3, off entry 35, 6,000 feet in, 80½-inch bed).	9305	A	1	2.73	15.68	76.38	5.21	0.62	......	......	......	......	2.2	......	......	......	983
			2	......	16.12	78.52	5.36	.64	......	......	......	......	......	......	......		
			3	......	17.03	82.97	......	.68	......	......	......	......	......	......	......		
Same (room 10, cross left entry 1, off entry 34, 4,500 feet in, 78-inch bed).	9306	A	1	3.14	15.94	76.95	3.97	.64	......	......	......	......	2.6	......	......	......	983
			2	......	16.46	79.44	4.10	.66	......	......	......	......	......	......	......		
			3	......	17.16	82.84	......	.69	......	......	......	......	......	......	......		
Same (pillar 12, cross entry 3, off entry 6, 2,800 feet in, 66½-inch bed).	9307	A	1	2.68	15.02	77.09	5.21	.62	......	......	......	......	2.0	......	......	......	983
			2	......	15.44	79.21	5.35	.64	......	......	......	......	......	......	......		
			3	......	16.31	83.69	......	.68	......	......	......	......	......	......	......		
Same (composite of Nos. 9302–9307)............	9469	......	1	3.06	14.91	76.60	5.43	.57	4.76	82.61	1.07	5.56	2.6	8,011	14,420	......	983
			2	......	15.38	79.02	5.60	.59	4.56	85.22	1.10	2.93	......	8,264	14,875		
			3	......	16.29	83.71	......	.62	4.83	90.27	1.17	3.11	......	8,754	15,757		
Same (barrier pillar between cross entries 2 and 3, off entry 6, 67½-inch cut).	10093	A	1	3.64	16.06	76.28	4.02	.57	......	......	......	......	3.1	......	......	......	983
			2	......	16.67	79.16	4.17	.59	......	......	......	......	......	......	......		
			3	......	17.40	82.60	......	.62	......	......	......	......	......	......	......		
Same (barrier pillar between cross entries 3 and 4, off entry 7, 66½-inch cut).	10094	A	1	3.09	15.37	77.53	4.01	.57	......	......	......	......	2.5	......	......	......	983
			2	......	15.86	80.00	4.14	.59	......	......	......	......	......	......	......		
			3	......	16.55	83.45	......	.62	......	......	......	......	......	......	......		
Same (barrier pillar between cross entries 7 and 8, off old main entry, 72-inch cut).	10095	A	1	3.37	16.33	76.21	4.09	.56	......	......	......	......	2.8	......	......	......	983
			2	......	16.90	78.87	4.23	.58	......	......	......	......	......	......	......		
			3	......	17.65	82.35	......	.61	......	......	......	......	......	......	......		
Same (composite of Nos. 10093–10095)..........	10103	A	1	3.32	16.22	76.35	4.11	.55	4.67	83.05	1.16	6.46	2.8	8,104	14,587	......	983
			2	......	16.78	78.97	4.25	.57	4.45	85.90	1.20	3.63	......	8,382	15,088		
			3	......	17.53	82.47	......	.60	4.65	89.71	1.25	3.79	......	8,754	15,757		
Same (entry 34, 80½-inch cut)..................	10096	A	1	2.84	14.73	77.31	5.12	.62	......	......	......	......	2.3	......	......	......	983
			2	......	15.16	79.57	5.27	.64	......	......	......	......	......	......	......		
			3	......	16.00	84.00	......	.68	......	......	......	......	......	......	......		
Same (entry 35, off main entry 2, 75¾-inch cut).	10097	A	1	3.44	16.94	74.62	5.00	.63	......	......	......	......	2.8	......	......	......	983
			2	......	17.54	77.28	5.18	.65	......	......	......	......	......	......	......		
			3	......	18.50	81.50	......	.69	......	......	......	......	......	......	......		
Same (last break-through between main entry 2 and air course, 77-inch cut).	10098	A	1	3.09	16.41	75.85	4.65	.57	......	......	......	......	2.5	......	......	......	983
			2	......	16.93	78.27	4.80	.59	......	......	......	......	......	......	......		
			3	......	17.78	82.22	......	.62	......	......	......	......	......	......	......		

Same (composite of Nos. 10096–10098)	10104	A	1	3.05	16.62	75.47	4.86	.57	4.76	83.46	1.14	5.21	2.5	8,072	14,530	......	983
			2	......	17.14	77.85	5.01	.59	4.56	86.09	1.18	2.57	......	8,326	14,987		
			3	......	18.04	81.96	......	.62	4.80	90.63	1.24	2.71	......	8,765	15,777		
1 mile southwest of; Eureka mine, Pocahontas No. 3 bed (entry 26, off cross entry 6 off main, 83-inch cut).	8789	A	1	2.8	14.5	77.7	5.0	.60	......	......	......	......	2.1	......	......	......	984
			2	......	15.0	79.8	5.2	.65	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.65	......	......	......	......	......	......	......		
Same (entry 2, off right entry 26 off cross entry 6 off main entry, 85¾-inch cut).	8788	A	1	2.9	13.5	78.9	4.7	.65	......	......	......	......	2.2	......	......	......	984
			2	......	14.0	81.1	4.9	.70	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.75	......	......	......	......	......	......	......		
Same (entry 7 off main entry, 80-inch cut)	8787	A	1	8.3	14.0	72.0	5.7	.55	......	......	......	......	7.6	......	......	......	984
			2	......	15.0	78.8	6.2	.60	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.65	......	......	......	......	......	......	......		
Same (entry 39 off cross entry 6 off main entry, 79½-inch cut).	8786	A	1	3.2	14.5	77.5	4.8	.55	......	......	......	......	2.5	......	......	......	984
			2	......	15.0	80.0	5.0	.55	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.60	......	......	......	......	......	......	......		
Same (composite of Nos. 8786–8789)	8837	......	1	4.3	14.0	76.6	5.12	.58	4.60	82.63	1.13	5.94	3.6	7,935	14,280	......	984
			2	......	14.5	80.1	5.35	.61	4.30	86.32	1.18	2.24	......	8,290	14,920		
			3	......	15.5	84.5	......	.64	4.54	91.20	1.25	2.37	......	8,755	15,760		
Elkhorn, ½ mile west of; Upland mine, Pocahontas No. 3 bed (pillar, room 15 on cross entry 6, 2,000 feet from drift mouth, 84½-inch cut).	8228	A	1	2.73	13.65	79.52	4.10	.57	......	......	......	......	2.1	......	......	......	985
			2	......	14.03	81.75	4.22	.59	......	......	......	......	......	......	......		
			3	......	14.65	85.35	......	.62	......	......	......	......	......	......	......		
Same (pillar, room 44 on cross entry 7, 5,500 feet from drift mouth, 87½-inch cut).	8229	A	1	3.02	14.44	77.89	4.65	.48	......	......	......	......	2.4	......	......	......	985
			2	......	14.89	80.32	4.79	.49	......	......	......	......	......	......	......		
			3	......	15.64	84.36	......	.51	......	......	......	......	......	......	......		
Same (pillar, room 41, cross entry 10, 6,200 feet from drift mouth, 77½-inch cut).	8230	A	1	2.72	13.42	79.18	4.68	.47	......	......	......	......	2.2	......	......	......	985
			2	......	13.80	81.39	4.81	.48	......	......	......	......	......	......	......		
			3	......	14.50	85.50	......	.50	......	......	......	......	......	......	......		
Same (room 40, cross entry 13, 7,900 feet from drift mouth, 7½-foot cut).	8231	A	1	3.40	13.49	78.71	4.40	.51	......	......	......	......	2.6	......	......	......	985
			2	......	13.96	81.49	4.55	.53	......	......	......	......	......	......	......		
			3	......	14.63	85.37	......	.56	......	......	......	......	......	......	......		
Same (mill branch entry, near cross entry 13, 6,500 feet from drift mouth, 85-inch cut).	8232	A	1	4.13	12.97	78.17	4.73	.52	......	......	......	......	3.2	......	......	......	985
			2	......	13.53	81.54	4.93	.54	......	......	......	......	......	......	......		
			3	......	14.23	85.77	......	.57	......	......	......	......	......	......	......		
Same (room 51, cross entry 11, 7,660 feet from drift mouth, 82¾-inch cut).	8233	A	1	3.43	13.43	78.42	4.72	.49	......	......	......	......	2.6	......	......	......	985
			2	......	13.91	81.20	4.89	.51	......	......	......	......	......	......	......		
			3	......	14.62	85.38	......	.54	......	......	......	......	......	......	......		
Same (composite of Nos. 8228–8233)	8302	......	1	3.24	13.13	79.00	4.63	.49	4.80	83.96	1.10	5.02	2.5	8,110	14,598	......	985
			2	......	13.57	81.64	4.79	.51	4.59	86.77	1.14	2.20	......	8,382	15,088		
			3	......	14.25	85.75	......	.54	4.82	91.13	1.20	2.31	......	8,804	15,847		
1 mile east of; Crozer No. 1 mine, Pocahontas No. 3 bed (pillar, room 33 on cross entry 12, 7,500 feet from drift mouth, 7½-foot cut).	8222	A	1	3.24	12.80	79.59	4.37	.54	......	......	......	......	2.6	......	......	......	986
			2	......	13.23	82.25	4.52	.56	......	......	......	......	......	......	......		
			3	......	13.86	86.14	......	.59	......	......	......	......	......	......	......		
Same (pillar, room 19, cross entry 11, 6,800 feet from drift mouth, 102½-inch cut).	8223	A	1	3.00	13.94	78.44	4.62	.61	......	......	......	......	2.5	......	......	......	986
			2	......	14.37	80.87	4.76	.63	......	......	......	......	......	......	......		
			3	......	15.09	84.91	......	.66	......	......	......	......	......	......	......		
Same (pillar, room 4 on cross entry 9, 4,500 feet from drift mouth, 7½-foot cut).	8224	A	1	2.48	14.89	78.29	4.34	.55	......	......	......	......	1.9	......	......	......	986
			2	......	15.27	80.28	4.45	.56	......	......	......	......	......	......	......		
			3	......	15.98	84.02	......	.59	......	......	......	......	......	......	......		
Same (room 13 on cross entry 13, 7,200 feet from drift mouth, 86-inch cut).	8225	A	1	3.21	13.26	79.09	4.44	.52	......	......	......	......	2.6	......	......	......	986
			2	......	13.70	81.71	4.59	.54	......	......	......	......	......	......	......		
			3	......	14.36	85.64	......	.57	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
M'DOWELL COUNTY—continued.																	
Elkhorn, Crozer No. 1 mine—Continued.																	
Same (room 10 on cross entry 16, 8,100 feet from drift mouth, 7-foot cut).	8226	A	1	3.45	13.78	78.57	4.20	0.53	......	......	......	......	2.9	......	......	......	986
			2	......	14.27	81.38	4.35	.55	......	......	......	......	......	......	......		
			3	......	14.92	85.08	......	.58	......	......	......	......	......	......	......		
Same (cross entry 20, 9,600 feet from drift mouth, 86¾-inch cut).	8227	A	1	3.74	13.59	78.31	4.36	.49	......	......	......	......	3.2	......	......	......	986
			2	......	14.12	81.35	4.53	.51	......	......	......	......	......	......	......		
			3	......	14.79	85.21	......	.53	......	......	......	......	......	......	......		
Same (composite of Nos. 8222–8227)	8297	......	1	3.16	14.57	77.87	4.40	.54	4.75	83.83	1.07	5.41	2.6	8,106	14,591	......	986
			2	......	15.04	80.42	4.54	.56	4.54	86.56	1.10	2.70	......	8,370	15,066		
			3	......	15.76	84.24	......	.59	4.76	90.68	1.15	2.82	......	8,768	15,782		
Crozer No. 2 mine, Pocahontas No. 3 bed (pillar, room 17, cross entry 12, 6,400 feet from drift mouth, 89½-inch cut).	8429	A	1	2.68	13.31	79.45	4.56	.59	......	......	......	......	1.8	......	......	......	986
			2	......	13.68	81.63	4.69	.61	......	......	......	......	......	......	......		
			3	......	14.35	85.65	......	.64	......	......	......	......	......	......	......		
Same (pillar between cross entries 11 and 12, 6,000 feet from drift mouth, 85-inch cut).	8430	A	1	2.66	14.78	77.17	5.39	.62	......	......	......	......	1.7	......	......	......	986
			2	......	15.18	79.28	5.54	.64	......	......	......	......	......	......	......		
			3	......	16.07	83.93	......	.68	......	......	......	......	......	......	......		
Same (room 22, cross entry 15, 7,300 feet from drift mouth, 89½-inch cut).	8451	A	1	3.40	12.55	79.10	4.95	.57	......	......	......	......	2.6	......	......	......	986
			2	......	12.99	81.89	5.12	.59	......	......	......	......	......	......	......		
			3	......	13.69	86.31	......	.62	......	......	......	......	......	......	......		
Same (room 13, entry 3, 8,200 feet from drift mouth, 93-inch cut).	8452	A	1	3.84	13.98	77.45	4.73	.54	......	......	......	......	3.1	......	......	......	986
			2	......	14.54	80.54	4.92	.56	......	......	......	......	......	......	......		
			3	......	15.29	84.71	......	.59	......	......	......	......	......	......	......		
Same (room 62, main entry, 10,500 feet from drift mouth, 94¼-inch cut).	8453	A	1	4.08	13.40	78.53	3.99	.59	......	......	......	......	3.5	......	......	......	986
			2	......	13.97	81.87	4.16	.62	......	......	......	......	......	......	......		
			3	......	14.58	85.42	......	.65	......	......	......	......	......	......	......		
Same (composite of Nos. 8429 and 8430)	8470	......	1	2.74	13.94	78.38	4.94	.59	4.68	84.23	1.28	4.28	1.8	8,136	14,645	......	986
			2	......	14.33	80.59	5.08	.61	4.50	86.61	1.32	1.88	......	8,365	15,057		
			3	......	15.10	84.90	......	.64	4.74	91.24	1.39	1.99	......	8,813	15,863		
Same (composite of Nos. 8451, 8452, and 8453)	8471	......	1	3.80	13.71	77.74	4.75	.55	4.59	83.17	1.05	5.89	3.1	8,029	14,452	......	986
			2	......	14.25	80.81	4.94	.57	4.33	86.46	1.09	2.61	......	8,346	15,023		
			3	......	14.99	85.01	......	.60	4.56	90.96	1.15	2.73	......	8,780	15,804		
Elk Ridge, Elk Ridge mine, Pocahontas No. 3 bed (pillar 38, off haulway 10, off "old" drift, 74¾-inch cut).	8319	A	1	2.67	13.05	80.22	4.06	.53	......	......	......	......	2.1	......	......	......	988
			2	......	13.41	82.42	4.17	.54	......	......	......	......	......	......	......		
			3	......	13.99	86.01	......	.56	......	......	......	......	......	......	......		

	Same (room 4 off entry 1, 75¾-inch cut)	8320	A	1	2.71	13.29	79.77	4.23	.50					2.2				988
				2		13.66	81.99	4.35	.51									
				3		14.28	85.72		.53									
	Same (entry 4, between rooms 3 and 4, pillar workings, 77¼-inch cut).	8384	A	1	3.38	13.42	78.86	4.34	.56					2.4				988
				2		13.89	81.62	4.49	.58									
				3		14.54	85.46		.61									
	Same (entry 6½, 74¼-inch cut)	8385	A	1	3.18	13.19	79.68	3.95	.59					2.5				988
				2		13.62	82.30	4.08	.61									
				3		14.20	85.80		.64									
	Same (entry 8, between rooms 21 and 22, 74-inch cut).	8386	A	1	3.30	13.90	78.80	4.00	.59					2.3				988
				2		14.37	81.49	4.14	.61									
				3		14.99	85.01		.64									
	Same (composite of Nos. 8319, 8320, 8384–8386)	8463		1	3.10	13.38	79.28	4.24	.53	4.69	84.46	1.07	5.01	2.3	8,111	14,600		988
				2		13.81	81.81	4.38	.55	4.49	87.16	1.10	2.32		8,371	15,068		
				3		14.44	85.56		.58	4.70	91.15	1.15	2.42		8,754	15,754		
	Same (room 46, entry 6, "new drift side," 81-inch cut).	10035	A	1	.97	17.57	77.65	3.81	.58									988
				2		17.74	78.41	3.85	.58									
				3		18.45	81.55		.61									
Ennis,	Turkey Gap mine, Pocahontas No. 3 bed (8,000 feet northeast of drift mouth, room 57 off cross entry 14, 96¾-inch section, 87⅞-inch cut).	5789	A	1	3.27	15.51	77.67	3.55	.47					2.8	8,215	14,787	362	989
				2		16.03	80.30	3.67	.49						8,493	15,287	84	
				3		16.64	83.36		.51						8,817	15,871		
	Same (8,100 feet northeast of drift mouth, room 46 off cross entry 16, 77¼-inch section, 70¼-inch cut).	5790	A	1	2.58	16.04	77.48	3.90	.36					2.1	8,249	14,848	362	989
				2		16.46	79.54	4.00	.37						8,467	15,241	84	
				3		17.15	82.85		.86						8,820	15,876		
	Same (run of mine, first car)	5829	C	1	3.67	15.09	74.69	6.55	.46	4.32	81.73	.94	6.00	2.8	7,939	14,290	362	
				2		15.66	77.54	6.80	.48	4.06	84.84	.98	2.84		8,241	14,834		
				3		16.80	83.20		.52	4.36	91.03	1.05	3.04		8,843	15,917		
	Same (run of mine, second car)	5830	C	1	3.96	15.60	74.51	5.93	.43					3.1	7,985	14,373	362	
				2		16.24	77.59	6.17	.45						8,314	14,965		
				3		17.31	82.69		.48						8,861	15,950		
	Same (run of mine, third car)	5831	C	1	4.52	15.04	74.07	6.37	.41					4.0	7,881	14,186	362	
				2		15.75	77.58	6.67	.43						8,254	14,857		
				3		16.88	83.12		.46						8,844	15,919		
	Same (room 53 off entry 12, 3,500 feet northeast of drift mouth, 90½-inch cut).	8052	A	1	2.62	13.53	79.72	4.13	.58					2.1				989
				2		13.89	81.87	4.24	.60									
				3		14.51	85.49		.63									
	Same (room 43, off entry 14, 3,100 feet northeast of drift mouth, 7½-foot cut).	8053	A	1	2.71	14.45	78.62	4.22	.56					2.2				989
				2		14.85	80.81	4.34	.58									
				3		15.52	84.48		.61									
	Same (room 6 on entry 19, 6,300 feet east of drift mouth, 67-inch cut).	8054	A	1	3.39	14.08	78.63	3.90	.51					2.9				989
				2		14.57	81.39	4.04	.53									
				3		15.18	84.82		.55									
	Same (room 1 on entry 18, 5,200 feet east of drift mouth, 68-inch cut).	8055	A	1	3.36	13.15	78.58	4.91	.48					2.7				989
				2		13.61	81.31	5.08	.50									
				3		14.34	85.66		.53									
	Same (room 49 on entry 16, 5,400 feet east of drift mouth, 74-inch cut).	8056	A	1	3.27	12.60	80.02	4.11	.54					2.7				989
				2		13.03	82.72	4.25	.56									
				3		13.61	86.39		.58									
	Same (room 49 on entry 10, 3,000 feet northeast of drift mouth, 93½-inch cut).	8057	A	1	3.32	14.87	77.62	4.19	.46					2.8				989
				2		15.38	80.29	4.33	.48									
				3		16.08	83.92		.50									

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
M'DOWELL COUNTY—continued.																	
Ennis, Turkey Gap mine—Continued.																	
Same (composite of Nos. 8052-8057)	8116	......	1	3.25	14.46	78.05	4.24	0.48	4.65	84.05	1.12	5.46	2.6	8,095	14,571	......	989
			2	......	14.95	80.67	4.38	.50	4.43	86.87	1.16	2.66	......	8,367	15,061		
			3	......	15.63	84.37	......	.52	4.63	90.85	1.21	2.79	......	8,750	15,750		
Gilliam, Gilliam mine, Pocahontas No. 3 bed (cross entry 2, off main entry, 74-inch cut).	8366	A	1	3.94	13.16	78.04	4.86	.66	......	......	......	......	3.1	......	......	......	991
			2	......	13.70	81.24	5.06	.69	......	......	......	......	......	......	......		
			3	......	14.43	85.57	......	.73	......	......	......	......	......	......	......		
Same (pillar on air course 41, 60½-inch cut)	8367	A	1	3.81	12.88	77.85	5.46	.47	......	......	......	......	3.1	......	......	......	991
			2	......	13.39	80.93	5.68	.49	......	......	......	......	......	......	......		
			3	......	14.20	85.80	......	.52	......	......	......	......	......	......	......		
Same (pillar on diagonal haulway 1, off main entry, 58¾-inch cut).	8368	A	1	2.78	13.34	77.78	6.10	.48	......	......	......	......	2.1	......	......	......	991
			2	......	13.72	80.01	6.27	.49	......	......	......	......	......	......	......		
			3	......	14.64	85.36	......	.52	......	......	......	......	......	......	......		
Same (room 34, entry 10, off diagonal entry 1, 61-inch cut).	8369	A	1	3.03	13.07	78.42	5.48	.47	......	......	......	......	2.4	......	......	......	991
			2	......	13.48	80.87	5.65	.48	......	......	......	......	......	......	......		
			3	......	14.29	85.71	......	.51	......	......	......	......	......	......	......		
Same (room 9, entry 4, off diagonal 1, 64½-inch cut).	8370	A	1	3.11	12.82	78.22	5.85	.47	......	......	......	......	2.4	......	......	......	991
			2	......	13.23	80.73	6.04	.49	......	......	......	......	......	......	......		
			3	......	14.08	85.92	......	.52	......	......	......	......	......	......	......		
Same (composite of Nos. 8366-8370)	8462	......	1	3.38	13.36	77.57	5.69	.49	4.65	82.74	1.09	5.34	2.6	7,962	14,332	......	991
			2	......	13.83	80.28	5.89	.51	4.42	85.64	1.13	2.41	......	8,241	14,834		
			3	......	14.70	85.30	......	.54	4.70	91.00	1.20	2.56	......	8,757	15,763		
Huger, North Side mine, Pocahontas No. 4 bed (left entry 1, 49-inch cut).	8735	A	1	2.1	13.0	80.2	4.7	.50	......	......	......	......	1.5	......	......	......	991
			2	......	13.0	82.2	4.8	.50	......	......	......	......	......	......	......		
			3	......	13.5	86.5	......	.55	......	......	......	......	......	......	......		
Same (left entry 2, 45½-inch cut)	8730	A	1	2.8	13.0	79.5	4.7	.55	......	......	......	......	2.0	......	......	......	991
			2	......	13.0	82.1	4.9	.55	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.60	......	......	......	......	......	......	......		
Same (third left entry, 4-foot cut)	8731	A	1	3.2	13.0	78.9	4.9	.55	......	......	......	......	2.3	......	......	......	991
			2	......	13.5	81.5	5.0	.55	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.60	......	......	......	......	......	......	......		
Same (main entry, 51½-inch cut)	8740	A	1	2.8	12.5	80.0	4.7	.65	......	......	......	......	2.1	......	......	......	991
			2	......	13.0	82.1	4.9	.65	......	......	......	......	......	......	......		
			3	......	13.5	86.5	......	.70	......	......	......	......	......	......	......		

Same (composite of Nos. 8730, 8731, 8735, and 8740).	8844		1	2.7	13.5	79.1	4.69	.54	4.49	84.19	1.17	4.92	2.0	8,160	14,690		991
			2		13.5	81.7	4.82	.56	4.31	86.56	1.20	2.55		8,390	15,100		
			3		14.5	85.5		.59	4.53	90.94	1.26	2.68		8,815	15,860		
South Side mine, Pocahontas No. 4 bed (first right entry, 56-inch cut).	8739	A	1	2.9	12.0	80.7	4.4	.55					2.3				992
			2		12.5	83.0	4.5	.55									
			3		13.0	87.0		.60									
Same (cross entry 2, 49½-inch cut)	8729	A	1	2.5	13.0	79.9	4.6	.60					1.7				992
			2		13.0	82.3	4.7	.65									
			3		14.0	86.0		.65									
Same (main south entry, 47-inch cut)	8728	A	1	3.4	12.0	80.9	3.7	.70					2.7				992
			2		12.5	83.7	3.8	.75									
			3		13.0	87.0		.75									
Same (composite of Nos. 8728, 8729, and 8739)	8846		1	2.8	13.5	79.5	4.22	.58	4.55	84.34	1.14	5.17	2.3	8,165	14,700		992
			2		13.5	82.2	4.34	.60	4.36	86.79	1.17	2.74		8,400	15,120		
			3		14.5	85.5		.63	4.56	90.73	1.22	2.86		8,780	15,810		
Jed, Jed mine, Pocahontas No. 3 bed (east entry 2, 1,000 feet from the shaft, 55½-inch cut).	8444	A	1	2.1	11.5	80.8	5.6	.90					1.6				993
			2		11.5	82.8	5.7	.90									
			3		12.5	87.5		.95									
Same (main entry, 2,200 feet from shaft, 57½-inch cut).	8445	A	1	2.5	12.0	79.4	6.1	.75					2.0				993
			2		12.0	81.8	6.2	.75									
			3		13.0	87.0		.80									
Same (east entry 3, 1,800 feet from the shaft, 58¾-inch cut).	8446	A	1	3.1	12.0	78.8	6.1	.80					2.5				993
			2		12.0	81.8	6.2	.85									
			3		13.0	87.0		.90									
Same (main south entry, 700 feet from shaft, 60¾-inch cut).	8447	A	1	3.4	11.5	79.3	5.8	.75					3.0				993
			2		12.0	81.9	6.1	.80									
			3		13.0	87.0		.85									
Same (composite of Nos. 8444-8447)	8469		1	2.8	11.5	79.8	5.9	.82	4.40	83.44	1.06	4.38	2.3	8,010	14,410		993
			2		12.0	81.9	6.07	.84	4.21	85.87	1.09	1.92		8,240	14,830		
			3		13.0	87.0		.89	4.48	91.42	1.16	2.05		8,775	15,790		
Same (main entry 1, 58-inch cut)	10034	A	1	1.01	14.52	77.65	6.82	.71									994
			2		14.67	78.44	6.89	.72									
			3		15.76	84.24		.77									
Keystone, Keystone No. 1 mine, Pocahontas No. 3 bed (entry 8, 11,000 feet from drift mouth, 67½-inch cut).	8709	A	1	2.5	13.0	79.0	5.5	.65					1.8				994
			2		13.0	81.4	5.6	.65									
			3		14.0	86.0		.70									
Same (entry 5, 10,000 feet from drift mouth, 71½-inch cut).	8710	A	1	3.3	12.0	79.7	5.0	.60					2.4				994
			2		12.5	82.3	5.2	.60									
			3		13.5	86.5		.65									
Same (pillar, room 6 on entry 2, 9,000 feet from drift mouth, 74½-inch cut).	8711	A	1	3.3	13.0	77.9	5.8	.50					2.4	7,990	14,380		994
			2		13.5	80.5	6.0	.50						8,260	14,870		
			3		14.5	85.5		.55						8,785	15,810		
Same (composite of Nos. 8709 and 8710)	8795		1	2.8	13.5	78.5	5.18	.62	4.42	83.52	1.03	5.23	2.1	8,060	14,510		994
			2		14.0	80.7	5.33	.64	4.24	85.92	1.06	2.81		8,290	14,920		
			3		14.5	85.5		.68	4.48	90.76	1.12	2.96		8,755	15,760		
Keystone No. 2 mine, Pocahontas No. 3 bed (room 10, 5,000 feet from drift mouth, 68¾-inch cut).	8706	A	1	3.5	12.5	79.2	4.8	.85					2.6	8,045	14,480		994
			2		13.0	82.0	5.0	.85						8,335	15,000		
			3		13.5	86.5		.90						8,770	15,790		
Same (pillar, entry 4, 3,000 feet from drift mouth, 71-inch cut).	8708	A	1	3.5	12.5	79.7	4.3	.55					2.7				
			2		13.0	82.6	4.4	.60									
			3		13.5	86.5		.60									

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
M'DOWELL COUNTY—continued.																	
Keystone, Keystone No. 2 mine—Continued.																	
Same (pillar, room 10, entry 1, 1,500 feet from drift mouth, 67½-inch cut).	8707	A	1	3.1	13.5	79.5	3.9	0.60	......	......	......	......	2.3	......	......	......	994
			2	......	14.0	82.0	4.0	.65	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.65	......	......	......	......	......	......	......		
Same (composite of Nos. 8707 and 8708)	8794	......	1	3.2	13.0	79.7	4.12	.58	4.48	84.17	1.15	5.50	2.5	8,140	14,650	......	994
			2	......	13.5	82.2	4.26	.60	4.26	86.96	1.19	2.73	......	8,410	15,130		
			3	......	14.0	86.0	......	.63	4.45	90.83	1.24	2.85	......	8,780	15,810		
Kyle, Lynchburg mine, Pocahontas No. 3 bed (main entry, 86-inch cut).	8666	A	1	3.2	13.5	78.1	5.2	.60	......	......	......	......	2.5	......	......	......	995
			2	......	14.0	80.6	5.4	.60	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.65	......	......	......	......	......	......	......		
Same (cross entry 11 off main entry, 7½-foot cut).	8667	A	1	3.1	13.5	79.2	4.2	.50	......	......	......	......	2.4	......	......	......	995
			2	......	14.0	81.6	4.4	.55	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.55	......	......	......	......	......	......	......		
Same (room 20, entry 9½ off main entry, 85-inch cut).	8671	A	1	3.2	14.0	78.2	4.6	.55	......	......	......	......	2.5	......	......	......	995
			2	......	14.5	80.7	4.8	.55	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.60	......	......	......	......	......	......	......		
Same (left upland entry 9½, 7-foot cut)	8668	A	1	3.3	15.0	77.3	4.4	.50	......	......	......	......	2.4	......	......	......	995
			2	......	15.5	80.0	4.5	.50	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.50	......	......	......	......	......	......	......		
Same (pillar 17, North Carolina entry, 82-inch cut).	8670	A	1	2.9	14.5	78.7	3.9	.60	......	......	......	......	2.2	8,210	14,780	......	995
			2	......	14.5	81.5	4.0	.60	......	......	......	......	......	8,460	15,230		
			3	......	15.5	84.5	......	.65	......	......	......	......	......	8,810	15,860		
Same (pillar 34, entry 6 off main entry, 7-foot cut).	8669	A	1	3.8	13.5	78.2	4.5	.55	......	......	......	......	3.1	8,050	14,490	......	995
			2	......	14.5	80.8	4.7	.55	......	......	......	......	......	8,365	15,050		
			3	......	15.0	85.0	......	.60	......	......	......	......	......	8,770	15,690		
Same (composite of Nos. 8666-8668 and 8671)	8725	......	1	3.3	14.0	78.2	4.52	.54	4.55	83.10	1.18	6.16	2.5	8,115	14,600	......	995
			2	......	14.5	80.8	4.67	.56	4.33	85.90	1.17	3.37	......	8,385	15,100		
			3	......	15.5	84.5	......	.59	4.54	90.11	1.23	3.53	......	8,795	15,830		
Landgraff, Empire mine, Pocahontas No. 3 bed (main entry, 71½-inch cut).	8662	A	1	2.59	12.96	78.60	5.85	.63	......	......	......	......	1.9	......	......	......	996
			2	......	13.3	80.69	6.01	.65	......	......	......	......	......	......	......		
			3	......	14.15	85.85	......	.69	......	......	......	......	......	......	......		
Same (diagonal entry 9, 71½-inch cut)	8661	A	1	2.34	12.44	80.11	5.11	.55	......	......	......	......	1.7	......	......	......	996
			2	......	12.74	82.03	5.23	.56	......	......	......	......	......	......	......		
			3	......	13.44	86.56	......	.59	......	......	......	......	......	......	......		

Same (diagonal entry 5, 68-inch cut)	8660	A	1	2.60	12.99	79.32	5.09	.64					2.0				996
			2		13.33	81.44	5.23	.66									
			3		14.07	85.93		.70									
Same (pillar, between entries 18 and 20, off first diagonal entry, 78½-inch cut).	8659	A	1	3.06	12.81	80.27	3.86	.55					2.4	8,164	14,695		996
			2		13.21	82.81	3.98	.57						8,422	15,160		
			3		13.76	86.24		.59						8,771	15,788		
Same (pillar, entry 8 off diagonal entry 1, 72½-inch cut).	8658	A	1	2.87	13.30	79.09	4.74	.54					2.1	8,084	14,551		996
			2		13.69	81.43	4.88	.56						8,322	14,980		
			3		14.39	85.61		.59						8,749	15,748		
Same (composite of Nos. 8660, 8661, and 8662)	8699		1	2.50	12.9	79.09	5.51	.58	4.23	83.28	1.12	5.28	1.9	8,061	14,510		996
			2		13.23	81.12	5.65	.59	4.05	85.41	1.15	3.15		8,267	14,881		
			3		14.02	85.98		.63	4.29	90.53	1.22	3.33		8,762	15,772		
McDowell, McDowell mine, Pocahontas No. 3 bed (Scotland entry, 5,600 feet S. 80° E. from drift mouth, 59½-inch cut).	8499	A	1	3.14	14.81	77.84	4.21	.49					2.5				997
			2		15.29	80.36	4.35	.51									
			3		15.99	84.01		.53									
Same (Ohio entry, 6,000 feet N. 78° E. from drift mouth, 57-inch cut).	8500	A	1	3.44	14.63	78.05	3.88	.47					2.7				997
			2		15.15	80.83	4.02	.49									
			3		15.78	84.22		.51									
Same (Pennsylvania entry, 5,400 feet S. 55° E. from drift mouth, 62½-inch cut).	8501	A	1	3.38	13.9	78.05	4.67	.47					2.8				997
			2		14.39	80.78	4.83	.49									
			3		15.12	84.88		.51									
Same (pillar, room 24, New York entry, 3,200 feet S. 45° E. from drift mouth, 59½-inch cut).	8502	A	1	3.13	13.55	79.06	4.26	.45					2.4				997
			2		13.99	81.61	4.4	.46									
			3		14.63	85.37		.48									
Same (pillar, 5-foot cut)	8533	A	1	3.93	13.2	76.07	6.8	.43					3.1				997
			2		13.74	79.18	7.08	.45									
			3		14.79	85.21		.48									
Same (composite of Nos. 8499–8501)	8687		1	3.28	15.06	77.5	4.16	.45	4.61	84.00	1.08	5.70	2.7	8,082	14,548		997
			2		15.57	80.13	4.3	.47	4.39	86.85	1.12	2.87		8,356	15,041		
			3		16.27	83.73		.49	4.59	90.75	1.17	3.00		8,731	15,716		
Same (composite of Nos. 8533 and 8502)	8686		1	3.30	13.37	77.71	5.62	.43	4.43	82.05	1.11	6.36	2.8	7,957	14,323		997
			2		13.83	80.36	5.81	.44	4.20	84.85	1.15	3.55		8,228	14,810		
			3		14.68	85.32		.47	4.46	90.09	1.22	3.76		8,736	15,725		
1½ miles east of; Greenbrier mine, Pocahontas No. 3 bed (pillar 4, off cross entry 4 off main entry 1, 59-inch cut).	8497	A	1	2.7	15.0	78.1	4.2	.45					2.2	8,175	14,720		998
			2		15.5	80.2	4.3	.45						8,405	15,130		
			3		16.0	84.0		.45						8,780	15,810		
Same (pillar 3 on cross entry 6 off main entry 1, 60½-inch cut).	8498	A	1	3.0	14.5	78.0	4.5	.50					2.3				998
			2		15.0	80.4	4.6	.50									
			3		15.5	84.5		.50									
Same (room 1 on cross entry 9 off main entry, 70½-inch cut).	8530	A	1	3.8	15.0	77.5	3.7	.50					3.1				998
			2		15.5	80.6	3.9	.50									
			3		16.0	84.0		.55									
Same (cross entry 3, 65-inch cut)	8531	A	1	3.7	15.0	77.7	3.6	.50					3.0				998
			2		16.0	80.3	3.7	.50									
			3		16.5	83.5		.50									
Same (cross entry 2 off entry 34, 64½-inch cut)	8532	A	1	3.8	14.0	78.3	3.9	.50					3.1				998
			2		14.5	81.5	4.0	.50									
			3		15.0	85.0		.55									
Same (composite of Nos. 8498, 8530, 8531, and 8532).	8672		1	3.8	15.5	76.9	3.82	.51	4.66	83.35	1.05	6.61	3.1	8,120	14,620		998
			2		16.0	80.0	3.97	.53	4.41	86.66	1.09	3.34		8,440	15,200		
			3		16.5	83.5		.55	4.59	90.24	1.14	3.48		8,790	15,820		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
M'DOWELL COUNTY—continued.																	
Marytown, Marytown mine, Sewell bed (crosscut on main entry, 6,100 feet S. 40° E. from drift mouth, 47½-inch cut).	8821	A	1	3.0	15.5	78.5	3.0	0.55					2.4				999
			2		16.0	80.9	3.1	.55									
			3		16.5	83.5		.60									
Same (cross entry 3 off left entry 12, 5,000 feet S. 45° E. from drift mouth, 39½-inch cut).	8822	A	1	3.4	16.5	76.2	3.9	.50					2.7				999
			2		17.0	78.9	4.1	.55									
			3		17.5	82.5		.55									
Same (last crosscut on right entry 12, 4,600 feet S. 35° E. from drift mouth, 46-inch cut).	8823	A	1	3.7	15.0	77.7	3.0	.55					3.0				999
			2		16.0	80.3	3.7	.55									
			3		16.5	83.5		.60									
Same (pillar, cross entry 5 off left entry 10, 3,600 feet S. 60° E. from drift mouth, 40-inch cut).	8824	A	1	4.4	15.0	77.3	3.3	.55					3.7	8,100	14,090		999
			2		15.5	81.1	3.4	.60						8,530	15,350		
			3		16.0	84.0		.60						8,835	15,900		
Same (room 2, cross entry 7 off right entry 11, 3,600 feet S. 15° E. from drift mouth, 3½-foot cut).	8825	A	1	3.7	15.5	78.1	2.7	.60					2.8				999
			2		16.0	81.2	2.8	.60									
			3		16.5	83.5		.65									
Same (composite of Nos. 8821-8823 and 8825)	8933		1	3.5	15.0	78.3	3.2	.60	4.59	84.39	1.38	5.84	2.7	8,220	14,800		999
			2		15.5	81.2	3.3	.62	4.36	87.41	1.43	2.87		8,515	15,330		
			3		16.0	84.0		.64	4.51	90.40	1.48	2.97		8,805	15,850		
Maybeury, near; Elkhorn mine, Pocahontas No. 3 bed (room 11, entry 4 off right entry 6, 79-inch cut).	8506	A	1	2.96	14.43	79.55	3.06	.51	5.03	84.86	1.23	5.31	2.5	8,230	14,825		999
			2		14.87	81.98	3.15	.53	4.84	87.45	1.27	2.70		8,487	15,277		
			3		15.35	84.65		.55	5.00	90.29	1.31	2.85		8,703	15,773		
Same (pillar, entry 14 near room 6, 84-inch cut).	8507	A	1	4.17	15.74	77.32	2.77	.48					3.5				999
			2		16.42	80.69	2.89	.50									
			3		16.91	83.09		.51									
Same (pillar, cross entry 16 near room 6, 107½-inch cut).	8508	A	1	3.83	15.56	76.43	4.18	.62					3.5				999
			2		16.18	79.47	4.35	.64									
			3		16.92	83.08		.67									
Same (pillar, on entry 14, 8½-foot cut)	8509	A	1	3.43	16.48	76.64	3.45	.66					2.9				999
			2		17.07	79.36	3.57	.68									
			3		17.7	82.3		.71									
Same (pillar, room 5, entry 2, section 95, 98-inch cut).	8510	A	1	4.22	15.21	76.55	4.02	.55					3.0				999
			2		15.88	79.92	4.20	.57									
			3		16.58	83.42		.59									

Same (composite of Nos. 8507–8510)............	8588	......	1	3.97	15.78	76.6	3.65	.59	4.86	83.87	1.12	5.91	3.4	8,114	14,605	......	999
			2	....	16.43	79.77	3.80	.61	4.60	87.33	1.17	2.49	....	8,449	15,208		
			3	....	17.08	82.92	....	.63	4.78	90.78	1.22	2.59	....	8,783	15,809		
2 miles northeast of; Angle mine, Pocahontas No. 3 bed (main air course off entry A, 3,500 feet from drift mouth, 69½-inch cut).	8454	A	1	3.57	13.41	79.8	3.22	.50	....	....	....	....	2.7	....	....	......	1000
			2	....	13.91	82.75	3.34	.52	....	....	....	....	....	....	....		
			3	....	14.39	85.61	....	.54	....	....	....	....	....	....	....		
Same (pillar, room 6, entry 8, 4,500 feet from drift mouth, 66½-inch cut).	8455	A	1	3.70	15.00	77.23	4.07	.53	....	....	....	....	3.0	8,094	14,569	......	1000
			2	....	15.58	80.19	4.23	.55	....	....	....	....	....	8,405	15,129		
			3	....	16.27	83.73	....	.57	....	....	....	....	....	8,777	15,799		
Same (room 35, heading 2, 4,500 feet from drift mouth, 5-foot cut).	8456	A	1	3.36	14.15	77.81	4.68	.49	....	....	....	....	2.8	....	....	......	1000
			2	....	14.64	80.52	4.84	.51	....	....	....	....	....	....	....		
			3	....	15.39	84.61	....	.54	....	....	....	....	....	....	....		
Same (entry 2 off Cherokee heading, 8,500 feet from drift mouth, 5½-foot cut).	8402	A	1	3.16	13.77	79.03	4.04	.51	....	....	....	....	2.5	....	....	......	1000
			2	....	14.22	81.61	4.17	.53	....	....	....	....	....	....	....		
			3	....	14.84	85.16	....	.55	....	....	....	....	....	....	....		
Same (entry 3, 8,000 feet from drift mouth, 63½-inch cut).	8403	A	1	3.78	14.22	78.33	3.67	.53	....	....	....	....	3.1	....	....	......	1000
			2	....	14.78	81.41	3.81	.55	....	....	....	....	....	....	....		
			3	....	15.37	84.63	....	.57	....	....	....	....	....	....	....		
Same (entry C, 8,000 feet from drift mouth, 61½ inch cut).	8401	A	1	2.89	14.09	79.04	3.98	.54	....	....	....	....	2.3	....	....	......	1000
			2	....	14.51	81.39	4.10	.56	....	....	....	....	....	....	....		
			3	....	15.13	84.87	....	.58	....	....	....	....	....	....	....		
Same (composite of Nos. 8454, 8456, and 8401–8403).	8472	......	1	3.26	14.57	78.2	3.97	.54	4.76	84.62	1.02	5.09	2.7	8,166	14,699	......	1000
			2	....	15.06	80.84	4.10	.56	4.55	87.47	1.05	2.27	....	8,441	15,194		
			3	....	15.7	84.3	....	.58	4.74	91.21	1.09	2.38	....	8,802	15.844		
Norfolk mine, Pocahontas No. 3 bed (air course C–3, 2,600 feet east by 1,100 feet south, bed 8 feet 5¾ inches, 97¾-inch cut).	7194	A	1	3.59	15.02	76.13	5.26	.39	4.55	82.46	1.12	6.22	3.1	7,926	14,267	......	1001
			2	....	15.58	78.96	5.46	.40	4.30	85.53	1.16	3.15	....	8,221	14,798		
			3	....	16.48	83.52	....	.42	4.55	90.47	1.23	3.33	....	8,696	15,653		
Same (400 feet off left entry 1, parallel to entry 18, 3,180 feet southwest, room 3, bed 8 feet 8¾ inches, 92½-inch cut).	7193	A	1	3.35	14.72	78.14	3.79	.45	4.79	84.38	1.13	5.46	2.8	8,150	14,670	......	1001
			2	....	15.23	80.85	3.92	.47	4.57	87.31	1.17	2.56	....	8,433	15,179		
			3	....	15.85	84.15	....	.49	4.76	90.87	1.22	2.66	....	8,777	15,799		
Same (right cross entry 2, 4,500 feet from drift mouth, 97-inch cut).	8404	A	1	3.87	14.02	78.38	3.73	.55	....	....	....	....	3.2	....	....	......	1001
			2	....	14.59	81.53	3.88	.57	....	....	....	....	....	....	....		
			3	....	15.18	84.82	....	.59	....	....	....	....	....	....	....		
Same (room 7, entry C–4, 4,000 feet from drift mouth, 101¾-inch cut).	8405	A	1	3.45	15.23	77.89	3.43	.52	....	....	....	....	2.9	....	....	......	1001
			2	....	15.77	80.68	3.55	.54	....	....	....	....	....	....	....		
			3	....	16.35	83.65	....	.56	....	....	....	....	....	....	....		
Same (room 9, entry B–1, 2,500 feet from drift mouth, 97½-inch cut).	8406	A	1	3.08	15.33	78.39	3.20	.55	....	....	....	....	2.4	....	....	......	1001
			2	....	15.82	80.88	3.30	.57	....	....	....	....	....	....	....		
			3	....	16.36	83.64	....	.59	....	....	....	....	....	....	....		
Same (chain pillar old main entry, 3,200 feet from drift mouth, 87½-inch cut).	8332	A	1	4.49	14.31	77.99	3.21	.47	....	....	....	....	3.8	....	....	......	1001
			2	....	14.98	81.66	3.36	.49	....	....	....	....	....	....	....		
			3	....	15.5	84.5	....	.51	....	....	....	....	....	....	....		
Same (right cross entry 1, 4,000 feet from drift mouth, 7½-foot cut).	8331	A	1	3.95	15.29	77.2	3.56	.51	....	....	....	....	3.4	....	....	......	1001
			2	....	15.92	80.37	3.71	.53	....	....	....	....	....	....	....		
			3	....	16.53	83.47	....	.55	....	....	....	....	....	....	....		
Same (heading 2, 4,500 feet from drift mouth, 86½-inch cut).	8330	A	1	3.62	15.68	77.02	3.68	.50	....	....	....	....	3.0	....	....	......	1001
			2	....	16.27	79.91	3.82	.52	....	....	....	....	....	....	....		
			3	....	16.92	83.08	....	.54	....	....	....	....	....	....	....		
Same (composite of Nos. 8404–8406 and 8330–8332).	8420	......	1	3.73	14.62	78.22	3.43	.53	4.87	84.40	1.09	5.68	3.1	8,129	14,632	......	1001
			2	....	15.19	81.25	3.56	.55	4.63	87.67	1.13	2.46	....	8,444	15,199		
			3	....	15.75	84.25	....	.57	4.80	90.91	1.17	2.55	....	8,756	15,761		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
M'DOWELL COUNTY—continued.																	
Northfork, Northfork mine, Pocahontas No. 3 bed (Burke entry, 900 feet from drift mouth, 71½-inch cut).	8776	A	1	2.9	13.0	79.0	5.05	0.63	4.46	83.70	1.06	5.10	2.2	8,090	14,560	......	1003
			2	......	13.5	81.3	5.2	.65	4.26	86.16	1.09	2.64	......	8,325	14,990		
			3	......	14.5	85.5	......	.69	4.49	90.89	1.15	2.78	......	8,785	15,810		
Same (pillar 11 on dip entry, 5-foot cut).......	8777	A	1	4.5	14.5	77.0	4.0	.60	......	......	......	......	4.0	8,030	14,460	......	1003
			2	......	15.0	80.8	4.2	.65	......	......	......	......	......	8,410	15,140		
			3	......	15.5	84.5	......	.65	......	......	......	......	......	8,780	15,800		
Pageton, Page No. 1 mine, Pocahontas No. 3 bed (pillar, room 32, right cross entry 1, 2,700 feet from drift mouth, 7½-foot cut).	8521	A	1	4.2	13.5	78.7	3.6	.65	......	......	......	......	3.6	8,070	14,520	......	1004
			2	......	14.0	82.3	3.7	.70	......	......	......	......	......	8,420	15,150		
			3	......	14.5	85.5	......	.75	......	......	......	......	......	8,740	15,730		
Same (room 33, right cross entry 4, 3,300 feet from drift mouth, 86-inch cut).	8522	A	1	3.5	13.0	80.4	3.1	.65	......	......	......	......	3.0	......	......	......	1004
			2	......	13.5	83.3	3.2	.65	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.65	......	......	......	......	......	......	......		
Same (room 21 on right cross entry 6, 3,800 feet from drift mouth, 87½-inch cut).	8523	A	1	3.3	13.5	80.2	3.0	.65	......	......	......	......	2.7	......	......	......	1004
			2	......	14.0	82.9	3.1	.70	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.70	......	......	......	......	......	......	......		
Same (left entry 6, 2,400 feet from drift mouth, 84½-inch cut).	8541	A	1	3.0	13.0	80.2	3.8	.60	......	......	......	......	2.4	......	......	......	1004
			2	......	13.5	82.6	3.9	.65	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.65	......	......	......	......	......	......	......		
Same (composite of Nos. 8522, 8523, and 8541)..	8678	......	1	3.3	13.5	80.1	3.11	.64	4.54	84.72	1.16	5.83	2.7	8,200	14,760	......	1004
			2	......	14.0	82.8	3.22	.66	4.31	87.63	1.20	2.98	......	8,485	15,270		
			3	......	14.5	85.5	......	.68	4.45	90.55	1.24	3.08	......	8,765	15,780		
Page No. 2 mine, Pocahontas No. 3 bed (cross entry 2, 1,700 feet from drift mouth, 7½-foot cut).	8537	A		4.1	12.5	79.1	4.3	.65	......	......	......	......	3.4	......	......	......	1004
			2	......	13.0	82.6	4.4	.65	......	......	......	......	......	......	......		
			3	......	13.5	86.5	......	.70	......	......	......	......	......	......	......		
Same (main entry, 1,600 feet from drift mouth, 92½-inch cut).	8536	A	1	3.6	13.0	78.2	5.2	.65	......	......	......	......	2.9	......	......	......	1004
			2	......	13.5	81.1	5.4	.70	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.70	......	......	......	......	......	......	......		
Same (room 9 on cross entry 1, 1,200 feet from drift mouth, 91½-inch cut).	8535	A	1	3.5	13.0	79.7	3.8	.60	......	......	......	......	2.9	......	......	......	1004
			2	......	13.5	82.5	4.0	.65	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.65	......	......	......	......	......	......	......		
Same (composite of Nos. 8535–8537)...........	8684	......	1	3.7	12.5	79.5	4.26	.66	4.55	83.71	1.11	5.71	3.1	8,045	14,480	......	1004
			2	......	13.0	82.6	4.42	.69	4.30	86.88	1.15	2.56	......	8,350	15,030		
			3	......	13.5	86.5	......	.72	4.50	90.89	1.20	2.69	......	8,735	15,720		

Page No. 3 mine, Pocahontas No. 3 bed (main entry 2,300 feet from drift mouth, 83-inch cut).	8540	A	1	3.9	12.5	79.4	4.2	.55					3.2				1004
			2		13.0	82.7	4.3	.60									
			3		14.0	86.0		.60									
Same (room 9, cross entry 4, 1,700 feet from drift mouth, 78½-inch cut).	8539	A	1	3.2	14.0	78.5	4.8	.65					2. 6				1004
			2		14.5	81.1	4.4	.65									
			3		15.0	85.0		.70									
Same (right cross entry 2, 2,100 feet from drift mouth, 82-inch cut).	8538	A	1	3.6	12.5	79.9	4.0	.55					2.9				1004
			2		13.0	82.8	4.2	.60									
			3		13.5	86.5		.60									
Same (composite of Nos. 8538–8540).	8685		1	3.6	13.0	79.3	4.12	.61	4.60	83.46	1.14	6.07	2.9	8,115	14,610		1004
			2		13.5	82.2	4.27	.63	4.35	86.54	1.18	3.03		8,415	15,150		
			3		14.0	86.0		.66	4.54	90.40	1.23	3.17		8,790	15,830		
Powhatan, Powhatan mine, Pocahontas No. 3 bed (pillar, room 3, left entry 5, 1,800 feet from drift mouth, 73¼-inch cut).	8329	A	1	2.55	13.44	78.57	5.44	.57	4.58	83.60	1.01	4.80	1.8	8,094	14,569		1006
			2		13.79	80.63	5.58	.58	4.41	85.79	1.04	2.60		8,306	14,957		
			3		14.6	85.4		.61	4.67	90.86	1.10	2.76		8,797	15,835		
Same (left entry 8½, 2,400 feet from drift mouth, 83-inch cut).	8328	A	1	2.8	13.5	79.2	4.5	.55					2.2				1006
			2		14.0	81.3	4.7	.60									
			3		14.5	85.5		.60									
Same (left entry 12, 5,700 feet from drift mouth, 70-inch cut).	8327	A	1	3.4	13.5	78.8	4.3	.55					2.8				1006
			2		13.5	82.1	4.4	.55									
			3		14.5	85.5		.60									
Same (pillar, room 9, on right entry 7, 3,300 feet from drift mouth, 71¾-inch cut).	8448	A	1	2.76	13.05	79.77	4.42	.60					2.0	8,194	14,749		1006
			2		13.42	82.03	4.55	.62						8,427	15,169		
			3		14.06	85.94		.65						8,829	15,892		
Same (room 25, right entry 8½, 3,800 feet from drift mouth, 83¼-inch cut).	8449	A	1	3.0	13.0	78.9	5.1	.65					2.4				1006
			2		13.5	81.2	5.3	.70									
			3		14.5	85.5		.75									
Same (right entry 12, 5,600 feet from drift mouth, 71¼-inch cut).	8450	A	1	3.3	13.5	79.1	4.1	.45					2.7				1006
			2		14.0	81.7	4.3	.50									
			3		14.5	85.5		.50									
Same (composite of Nos. 8327, 8328, 8449, and 8450).	8427		1	3.3	14.5	77.7	4.49	.55	4.72	84.12	1.07	5.05	2.5	8,125	14,630		1006
			2		15.0	80.4	4.64	.57	4.51	86.97	1.11	2.20		8,400	15,120		
			3		15.5	84.5		.60	4.73	91.20	1.16	2.31		8,810	15,860		
Roderfield, 6 miles from; Premier Pocahontas No. 1 mine, Welch or No. 6 bed (right 1, off left entry 2, 1,150 feet southeast of drift mouth, 39⅞-inch cut).	650	A	1	2.70	18.50	75.50	5.30							8,072	14,530		1007
			2		19.00	73.60	5.40							8,294	14,930		
			3		20.11	79.89								8,768	15,782		
Same (right entry 3, off main heading, 1,300 feet south of drift mouth, 34⅝-inch cut).	649	A	1	2.30	18.00	72.60	7.10	.60						7,928	14,270		1007
			2		18.50	74.20	7.30	.65						8,111	14,600		
			3		19.95	80.05		.70						8,750	15,750		
6 miles southeast of; Premier Pocahontas No. 2 mine, Welch or No. 6 bed (slope of left entry 2, 1,600 feet east of drift mouth, 52¼-inch cut).	651	A	1	2.40	16.50	73.90	7.20							7.917	14,250		1007
			2		17.00	75.60	7.40							8,111	14,600		
			3		18.35	81.65								8,759	15,767		
Same (left entry 1, 1,400 feet east of drift mouth, 47⅞-inch cut).	652	A	1	2.00	17.50	74.60	5.90	.55						8,106	14,590		1007
			2		18.00	76.00	6.00	.55						8,267	14,880		
			3		19.13	80.87		.58						8,784	15,812		
7 miles southeast of; Premier Pocahontas No. 3 mine, Welch or No. 6 bed (left entry 2, 1,350 feet east of drift mouth, 41½-inch cut).	654	A	1	2.10	18.00	74.60	5.30	.65						8,139	14,650		1008
			2		18.50	76.10	5.40	.65						8,306	14,950		
			3		19.55	80.45		.68						8,779	15,803		
Same (slope of left entry 1, 900 feet northeast of drift mouth, 48¾-inch cut).	653	A	1	1.80	18.00	74.90	5.30	.55						8,161	14,690		1008
			2		18.50	76.10	5.40	.55						8,311	14,960		
			3		19.55	80.45		.58						8,779	15,803		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
M'DOWELL COUNTY—continued.																	
Roderfield, Premier Pocahontas No. 3 mine—Contd.																	
Same (composite of analyses 649–654)	655	......	1	2.10	17.50	74.60	5.80	0.55	......	......	......	......	......	8,072	14,530	......	1008
			2	......	18.00	76.00	6.00	.60	......	......	......	......	......	8,239	14,830		
			3	......	19.15	80.85	......	.64	......	......	......	......	......	8,764	15,776		
Switchback, ¼ mile northeast of; Delta mine, Pocahontas No. 3 bed (chain pillar, cross entry 3, 4,500 feet from drift mouth, 101-inch cut).	8411	A	1	4.1	14.5	77.7	3.7	.50	......	......	......	......	3.1	......	......	......	1009
			2	......	15.0	81.2	3.8	.50	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.55	......	......	......	......	......	......	......		
Same (entry 8, 7,000 feet from drift mouth, 97-inch cut).	8412	A	1	4.3	14.0	77.7	4.0	.65	......	......	......	......	3.5	......	......	......	1009
			2	......	15.0	80.8	4.2	.65	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.70	......	......	......	......	......	......	......		
Same (entry 8–2, 4,500 feet from drift mouth, 80-inch cut).	8413	A	1	4.2	15.0	75.8	5.0	.45	......	......	......	......	3.4	......	......	......	1009
			2	......	16.0	78.8	5.2	.50	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	.50	......	......	......	......	......	......	......		
Same (main entry, 7,800 feet from drift mouth, 77½-inch cut).	8414	A	1	3.7	15.0	77.5	3.8	.45	......	......	......	......	2.9	......	......	......	1009
			2	......	15.5	80.6	3.9	.45	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.50	......	......	......	......	......	......	......		
Same (dip entry, 7,000 feet from drift mouth, 71-inch cut).	8415	A	1	3.8	14.0	78.3	3.9	.45	......	......	......	......	3.0	......	......	......	1009
			2	......	15.0	81.0	4.0	.50	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.50	......	......	......	......	......	......	......		
Same (pillar, room 3, cross entry 5, 2,000 feet from drift mouth, 89-inch cut).	8416	A	1	4.6	14.5	76.9	4.0	.60	......	......	......	......	3.7	......	......	......	1009
			2	......	15.0	80.8	4.2	.60	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.65	......	......	......	......	......	......	......		
Same (composite of Nos. 8411–8416)	8417	......	1	4.1	14.5	77.3	4.1	.52	4.68	83.47	1.14	6.09	3.3	8,060	14,510	......	1009
			2	......	15.5	80.2	4.27	.54	4.41	87.02	1.19	2.57	......	8,405	15,130		
			3	......	16.0	84.0	......	.56	4.63	90.90	1.24	2.67	......	8,780	15,800		
½ mile southeast of; Shamokin mine, Pocahontas No. 3 bed (pillar on St. Louis entry, 4,200 feet from drift mouth, 92½-inch cut).	8441	A	1	3.99	13.02	78.96	4.03	.51	......	......	......	......	3.3	......	......	......	1010
			2	......	13.56	82.24	4.20	.53	......	......	......	......	......	......	......		
			3	......	14.15	85.85	......	.55	......	......	......	......	......	......	......		
Same (room 4, new drift, 3,000 feet from drift mouth, 88½-inch cut).	8442	A	1	3.74	13.08	77.76	5.42	1.00	......	......	......	......	2.9	......	......	......	1010
			2	......	13.59	80.79	5.62	1.03	......	......	......	......	......	......	......		
			3	......	14.40	85.60	......	1.09	......	......	......	......	......	......	......		
Same (pillar, room 14, on Coney Island entry, 2,000 feet from drift mouth, 7-foot cut).	8443	A	1	3.41	13.08	79.79	3.72	.47	......	......	......	......	2.8	......	......	......	1010
			2	......	13.54	82.61	3.85	.49	......	......	......	......	......	......	......		
			3	......	14.08	85.92	......	.51	......	......	......	......	......	......	......		

Same (old main entry, 6,400 feet from drift mouth, 92-inch cut).	8398	A	1	3.77	14.97	77.85	3.41	.54	......	......	......	......	3.1	......	......	......	1010
			2	......	15.56	80.90	3.54	.56	......	......	......	......	......	......	......		
			3	......	16.13	83.87	......	.58	......	......	......	......	......	......	......		
Same (entry 14–1, 6,400 feet from drift mouth, 74-inch cut).	8399	A	1	4.02	13.91	79.23	2.84	.47	......	......	......	......	3.3	......	......	......	1010
			2	......	14.49	82.55	2.96	.49	......	......	......	......	......	......	......		
			3	......	14.93	85.07	......	.50	......	......	......	......	......	......	......		
Same (chain pillar, near room 8, on left entry 12, 87½-inch cut).	8400	A	1	3.11	13.26	80.41	3.22	.51	......	......	......	......	2.5	......	......	......	1010
			2	......	13.69	82.99	3.32	.53	......	......	......	......	......	......	......		
			3	......	14.16	85.84	......	.55	......	......	......	......	......	......	......		
Same (composite of Nos. 8398–8400 and 8442)...	8474	......	1	3.84	13.99	78.34	3.83	.65	5.06	84.27	1.02	5.17	3.0	8,145	14,661	......	1010
			2	......	14.55	81.47	3.98	.68	4.81	87.63	1.06	1.84	......	8,470	15,246		
			3	......	15.15	84.85	......	.71	5.01	91.26	1.10	1.92	......	8,821	15,878		
Same (composite of Nos. 8441 and 8443)........	8475	......	1	3.60	13.93	78.58	3.89	.50	4.84	84.16	1.14	5.47	3.1	8,129	14,632	......	1010
			2	......	14.45	81.51	4.04	.52	4.61	87.30	1.18	2.35	......	8,432	15,178		
			3	......	15.06	84.94	......	.54	4.80	90.98	1.23	2.45	......	8,787	15,817		
¾ mile south of; Lick Branch mine, 1 mile west of drift mouth, entry 9, Pocahontas No. 3 bed, 101⅝-inch cut.	5706	A	1	3.01	15.94	76.31	4.74	.44	......	......	......	......	2.4	8,175	14,715	362	1011
			2	......	16.43	78.68	4.89	.45	......	......	......	......	......	8,429	15,172	385	
			3	......	17.27	82.73	......	.47	......	......	......	......	......	8,862	15,952		
Same (room 3, entry 2, 1,500 feet from drift mouth, 93-inch cut).	8378	A	1	3.3	13.5	78.9	4.3	.50	......	......	......	......	2.4	......	......	......	1011
			2	......	14.0	81.5	4.5	.50	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.55	......	......	......	......	......	......	......		
Same (straight entry 8, 2,500 feet from drift mouth, 94½-inch cut).	8379	A	1	3.5	13.0	79.3	4.2	.50	......	......	......	......	2.7	......	......	......	1011
			2	......	13.5	82.2	4.3	.50	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.50	......	......	......	......	......	......	......		
Same (room 19, entry 8–1, 3,500 feet from drift mouth, 95-inch cut).	8380	A	1	3.8	14.0	78.7	3.5	.50	......	......	......	......	2.9	......	......	......	1011
			2	......	14.5	81.8	3.7	.50	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.55	......	......	......	......	......	......	......		
Same (chain pillar, left entry 9, near room 28, 6,200 feet southeast of drift mouth, 91½-inch cut).	8359	A	1	3.18	13.9	78.97	3.95	.53	......	......	......	......	2.4	......	......	......	1011
			2	......	14.36	81.56	4.08	.55	......	......	......	......	......	......	......		
			3	......	14.97	85.03	......	.57	......	......	......	......	......	......	......		
Same (pillar, room 13, left entry 9, 5,200 feet southeast of drift mouth, 86-inch cut).	8358	A	1	2.97	15.17	77.21	4.65	.52	......	......	......	......	2.3	......	......	......	1011
			2	......	15.63	79.58	4.79	.54	......	......	......	......	......	......	......		
			3	......	16.42	83.58	......	.57	......	......	......	......	......	......	......		
Same (composite of Nos. 8378–8380)............	8457	......	1	3.6	13.0	79.3	4.06	.49	4.71	84.25	1.02	5.47	2.7	8,135	14,650	......	1011
			2	......	13.5	82.3	4.21	.51	4.47	87.41	1.06	2.34	......	8,440	15,200		
			3	......	14.0	86.0	......	.53	4.67	91.26	1.11	2.43	......	8,815	15,860		
Same (composite of Nos. 8358 and 8359)........	8458	......	1	3.12	14.51	78.01	4.36	.53	4.73	83.66	1.03	5.69	2.4	8,140	14,652	......	1011
			2	......	14.98	80.52	4.5	.55	4.52	86.35	1.06	3.02	......	8,402	15,124		
			3	......	15.69	84.31	......	.58	4.73	90.42	1.11	3.16	......	8,798	15,836		
Twin Branch, Twin Branch mine, Sewell bed (pillar, right entry 4 off main entry, 2,600 feet N. 80° E. from drift mouth, 3½-foot cut).	8850	A	1	3.9	16.0	76.2	3.9	.50	......	......	......	......	3.2	8,075	14,530	......	1012
			2	......	16.5	79.4	4.1	.50	......	......	......	......	......	8,400	15.120		
			3	......	17.0	83.0	......	.55	......	......	......	......	......	8,755	15,760		
Same (right entry 8 off main entry, 3,800 feet N. 65° E. of drift mouth, 35-inch cut).	8851	A	1	3.4	16.5	76.1	4.0	.60	......	......	......	......	2.7	......	......	......	1012
			2	......	16.0	79.9	4.1	.65	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	.65	......	......	......	......	......	......	......		
Same (main entry, 3,200 feet N. 45° E. of drift mouth, 41-inch cut).	8852	A	1	3.5	15.0	77.6	3.9	.75	......	......	......	......	2.8	......	......	......	1012
			2	......	15.5	80.5	4.0	.75	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	.80	......	......	......	......	......	......	......		
Same (entry 32, 4,100 feet N. 30° E. from drift mouth, 38-inch cut).	8853	A	1	3.4	16.5	76.9	3.2	.60	......	......	......	......	2.7	......	......	......	1012
			2	......	17.0	79.6	3.4	.60	......	......	......	......	......	......	......		
			3	......	17.5	82.5	......	.65	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
M'DOWELL COUNTY—continued.																	
Twin Branch, Twin Branch mine—Continued. Same (composite of Nos. 8851–8853)	8935		1	3.4	16.0	77.0	3.59	0.69	4.61	83.95	1.30	5.86	2.7	8,195	14,750		1012
			2		16.5	79.8	3.72	.71	4.38	86.90	1.35	2.94		8,480	15,270		
			3		17.0	83.0		.74	4.55	90.25	1.40	3.06		8,810	15,860		
One-fourth mile west of; J. B. No. 2 mine, Sewell bed (left entry 4, 1,500 feet west of drift mouth, 38½-inch cut).	8854	A	1	2.9	16.0	78.1	3.0	.55					2.3				1013
			2		16.5	80.4	3.1	.55									
			3		17.0	83.0		.60									
Same (main entry, 2,300 feet west of drift mouth, 37½-inch cut).	8855	A	1	3.0	16.5	77.9	2.6	.60					2.3				1013
			2		17.0	80.3	2.7	.60									
			3		17.5	82.5		.60									
Same (right entry 6 off entry 7, 2,400 feet N. 60° W. from drift mouth, 3-foot cut).	8856	A	1	2.7	16.5	77.1	3.7	.80					2.0				1013
			2		17.0	79.2	3.8	.80									
			3		17.5	82.5		.85									
Same (right entry 1 off entry 7, 2,600 feet N. 45° W. of drift mouth, 40½-inch cut).	8857	A	1	3.1	16.0	78.1	2.8	.55					2.3				1013
			2		16.5	80.6	2.9	.55									
			3		17.0	83.0		.55									
Same (pillar, left entry 1 off main entry, 600 feet S. 60° W. of drift mouth, 41½-inch cut).	8858	A	1	2.8	16.5	78.2	2.5	.60					2.0	8,350	15,030		1013
			2		17.0	80.4	2.6	.60						8,595	15,470		
			3		17.5	82.5		.60						8,820	15,880		
Same (composite of Nos. 8854–8857)	8936		1	3.0	15.5	78.5	2.98	.70	4.76	85.54	1.37	4.65	2.2	8,325	14,980		1013
			2		16.0	80.9	3.07	.72	4.57	88.18	1.41	2.05		8,580	15,450		
			3		16.5	83.5		.74	4.71	90.98	1.45	2.12		8,855	15,940		
Vivian, Bottom Creek mine, Pocahontas No. 3 bed (pillar 8, cross entry 1, 550 feet southeast of drift mouth, 68-inch cut).	8571	A	1	3.4	11.5	81.5	3.6	.65					2.8				1014
			2		12.0	84.3	3.7	.70									
			3		12.5	87.5		.70									
Same (chain pillar 8, 9,300 feet northeast of drift mouth, 63½-inch cut).	8584	A	1	2.1	12.0	81.0	4.9	.60					1.5				1014
			2		12.0	83.0	5.0	.60									
			3		13.0	87.0		.65									
Same (room on main entry, 7,300 feet N. 45° E. of drift mouth, 70½-inch cut).	8581	A	1	3.0	12.5	79.2	5.3	.60					2.5				1014
			2		13.0	81.6	5.4	.65									
			3		13.5	86.5		.65									
Same (cross entry 12, 8,700 feet N. 63° E. of drift mouth, 64-inch cut).	8582	A	1	3.0	12.0	80.4	4.6	.60					2.3				1014
			2		12.5	82.7	4.8	.60									
			3		13.0	87.0		.65									

Same (break-through, cross entry 9, 12,500 feet N. 63° E. of drift mouth, 65-inch cut).	8583	A	1	2.2	12.5	79.8	5.5	.60	......	......	......	......	1.6	......	......	......	1014
			2	......	12.5	81.9	5.6	.60	......	......	......	......	......	......	......		
			3	......	13.5	86.5	......	.65	......	......	......	......	......	......	......		
Same (composite of Nos. 8571 and 8584)	8673	......	1	2.8	12.5	80.4	4.31	.66	4.37	83.55	1.01	6.10	2.2	8,145	14,660	......	1014
			2	......	12.5	83.1	4.44	.68	4.18	85.98	1.04	3.68	......	8,380	15,080		
			3	......	13.5	86.5	......	.71	4.37	89.98	1.09	3.85	......	8,770	15,790		
Same (composite of Nos. 8581–8583)	8674	......	1	2.7	13.0	79.2	5.05	.61	4.33	83.93	1.12	4.96	2.1	8,085	14,550	......	1014
			2	......	13.5	81.3	5.19	.63	4.14	86.27	1.15	2.62	......	8,310	14,960		
			3	......	14.5	85.5	......	.66	4.37	90.99	1.21	2.77	......	8,765	15,780		
Tidewater mine, Pocahontas No. 3 bed (pillar 2 off cross entry 1, 60¼-inch cut).	8573	A	1	2.7	13.0	80.2	4.1	.55	......	......	......	......	2.1	......	......	......	1015
			2	......	13.5	82.3	4.2	.60	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.60	......	......	......	......	......	......	......		
Same (pillar, near room 16, cross entry 3 off main entry, 63¾-inch cut).	8574	A	1	1.9	13.5	79.8	4.8	.60	......	......	......	......	1.3	......	......	......	1015
			2	......	14.0	81.1	4.9	.60	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.60	......	......	......	......	......	......	......		
Same (pillar 10, off cross entry 9 off main entry, 61¾-inch cut).	8575	A	1	2.4	13.0	80.1	4.5	.60	......	......	......	......	1.8	......	......	......	1015
			2	......	13.5	81.9	4.6	.60	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.60	......	......	......	......	......	......	......		
Same (main entry, 60½-inch cut)	8576	A	1	2.8	13.0	79.7	4.5	.60	......	......	......	......	2.3	......	......	......	1015
			2	......	13.5	81.9	4.6	.65	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.65	......	......	......	......	......	......	......		
Same (north entry 3 off cross entry 11, 61¼-inch cut).	8577	A	1	3.1	13.0	78.6	5.3	.70	......	......	......	......	2.5	......	......	......	1015
			2	......	13.5	81.0	5.5	.70	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.75	......	......	......	......	......	......	......		
Same (north entry 7 off cross entry 10, 57¾-inch cut).	8524	A	1	2.7	14.0	78.6	4.7	.65	......	......	......	......	2.2	......	......	......	1015
			2	......	14.5	80.7	4.8	.65	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.70	......	......	......	......	......	......	......		
Same (composite of Nos. 8573–8575)	8681	......	1	2.3	12.5	80.8	4.44	.58	4.43	84.78	1.09	4.68	1.7	8,175	14,720	......	1015
			2	......	13.0	82.5	4.54	.59	4.28	86.76	1.12	2.71	......	8,370	15,060		
			3	......	13.5	86.5	......	.62	4.48	90.89	1.17	2.84	......	8,765	15,780		
Same (composite of Nos. 8576, 8577, and 8524)	8680	......	1	2.9	13.0	79.3	4.75	.64	4.49	82.52	1.13	6.47	2.3	8,095	14,570	......	1015
			2	......	13.0	82.1	4.89	.66	4.30	85.00	1.16	3.99	......	8,335	15,010		
			3	......	14.0	86.0	......	.69	4.52	89.37	1.22	4.20	......	8,765	15,780		
West Vivian, ½ mile west of; King mine, Pocahontas No. 3 bed (south air course 2 off cross entry 1 off main entry, 2,900 feet east of slope, 61¾-inch cut.)	8688	A	1	2.7	13.5	78.4	5.4	.55	......	......	......	......	2.0	......	......	......	1016
			2	......	14.0	80.5	5.5	.55	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.60	......	......	......	......	......	......	......		
Same (cross entry 1, 4,600 feet N. 80° E. of slope, 62-inch cut).	8694	A	1	2.6	14.5	77.4	5.5	.55	......	......	......	......	2.0	......	......	......	1016
			2	......	15.0	79.3	5.7	.55	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.60	......	......	......	......	......	......	......		
Same (main air course, 5,200 feet N. 45° E. of slope, 59-inch cut).	8695	A	1	2.1	13.5	79.2	5.2	.55	......	......	......	......	1.5	......	......	......	1016
			2	......	14.0	80.7	5.3	.55	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.60	......	......	......	......	......	......	......		
Same (room 12 on north entry 3 off switchback entry, 5,300 feet S. 75 E. of slope, 61½-inch cut).	8647	A	1	1.9	14.0	79.2	4.9	.55	......	......	......	......	1.3	8,175	14,710	......	1016
			2	......	14.5	80.5	5.0	.60	......	......	......	......	......	8,330	15,000		
			3	......	15.0	85.0	......	.60	......	......	......	......	......	8,770	15,780		
Same (north entry 4 off switchback entry, 4,600 feet S. 85° E. of slope, 64½-inch cut).	8648	A	1	2.4	14.0	78.9	4.7	.60	......	......	......	......	1.8	......	......	......	1016
			2	......	14.0	81.2	4.8	.60	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.65	......	......	......	......	......	......	......		
Same (room 31 on north entry 3 off switchback entry, 4,700 feet S. 55° E. of slope, 67-inch cut).	8649	A	1	2.6	14.0	78.4	5.0	.70	......	......	......	......	1.9	8,106	14,590	......	1016
			2	......	14.5	80.3	5.2	.70	......	......	......	......	......	8,320	14,980		
			3	......	15.0	85.0	......	.75	......	......	......	......	......	8,775	15,790		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
M'DOWELL COUNTY—continued.																	
West Vivian, King mine—Continued.																	
Same (composite of Nos. 8648, 8688, 8694, and 8695).	8723	......	1	2.5	13.5	78.9	5.11	0.56	4.39	84.39	1.13	4.42	1.8	8,100	14,580	......	1016
			2	......	14.0	80.8	5.24	.57	4.23	86.54	1.16	2.26	......	8,305	14,950		
			3	......	15.0	85.0	......	.60	4.46	91.33	1.22	2.39	......	8,765	15,780		
Worth, ½ mile northwest of Indian Ridge mine, Pocahontas No. 3 bed (pillar 106, off cross entry 3, 45¾-inch cut).	8360	A	1	2.9	14.0	75.7	7.4	.40	......	......	......	......	2.2	......	......	......	1017
			2	......	14.5	77.9	7.6	.45	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.45	......	......	......	......	......	......	......		
Same (butt entry 3 off Salem air course, 52¾-inch cut).	8361	A	1	3.3	14.5	78.0	4.2	.40	......	......	......	......	2.6	......	......	......	1017
			2	......	15.0	80.7	4.3	.45	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.45	......	......	......	......	......	......	......		
Same (north entry 4, 51½-inch cut)	8525	A	1	2.4	13.5	80.7	3.4	.50	......	......	......	......	1.8	......	......	......	1017
			2	......	14.0	82.6	3.4	.50	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.55	......	......	......	......	......	......	......		
Same (last butt entry off Roanoke heading, 54¾-inch cut).	8362	A	1	3.0	14.0	76.9	6.1	.50	......	......	......	......	2.3	......	......	......	1017
			2	......	14.5	79.3	6.2	.55	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.60	......	......	......	......	......	......	......		
Same (composite of Nos. 8360-8362 and 8525)	8592	......	1	3.0	13.0	78.8	5.23	.48	4.46	82.84	1.05	5.94	2.3	8,055	14,500	......	1017
			2	......	13.5	81.1	5.39	.50	4.25	85.43	1.08	3.35	......	8,305	14,950		
			3	......	14.5	85.5	......	.53	4.49	90.30	1.14	3.54	......	8,780	15,800		
Zenith (Crumpler station), about 4 miles northeast of McDowell, Pocahontas No. 3 bed (Zenith No. 1 mine, 51-inch cut).	1234	A	1	2.21	18.28	74.26	5.25	.44	......	......	......	......	1.5	8,218	14,792	261	1018
			2	......	18.69	75.94	5.37	.45	......	......	......	......	......	8,404	15,127	332	
			3	......	19.75	80.25	......	.48	......	......	......	......	......	8,880	15,984	48	
Same (Zenith No. 2 mine, 52½-inch cut)	1235	A	1	3.05	18.26	74.12	4.57	.50	......	......	......	......	2.6	......	......	18	1018
			2	......	18.83	76.46	4.71	.52	......	......	......	......	......	......	......	28	
			3	......	19.76	80.24	......	.55	......	......	......	......	......	......	......	48	
Same (Zenith mines 1 and 2, run of mine)	1472	C	1	4.07	16.34	68.47	11.12	.51	4.27	76.51	1.00	6.59	3.3	7,505	13,509	261	......
			2	......	17.03	71.38	11.59	.53	3.98	79.75	1.04	3.11	......	7,823	14,081	48	
			3	......	19.26	80.74	......	.60	4.50	90.21	1.18	3.51	......	8,849	15,928		
Same (bone coal)	4231	C	1	1.02	9.08	44.47	45.43	.30	......	......	......	......	.6	......	......	332	......
			2	......	9.17	44.93	45.90	.30	......	......	......	......	......	......	......		
MARION COUNTY.																	
Kingmont, west bank of Tygart River, Kingmont mine, Pittsburgh bed (room 20 on right entry 2, 87½-inch section, 86-inch cut).	1088	A	1	1.40	36.65	55.28	6.07	1.59	......	......	1.43	......	.4	7,813	14,063	261	1018
			2	......	37.17	56.07	6.76	1.61	......	......	1.45	......	......	7,924	14,263	48	
			3	......	39.86	60.14	......	1.73	......	......	1.56	......	......	8,499	15,298	18	

Same (room 14 on left entry 4, 86¾-inch bed, 85½-inch cut).	1089	A	1	1.35	37.35	54.88	6.42	1.31	......	......	......	......	.4	......	......	23	1018
			2	......	37.86	55.63	6.51	1.33	......	......	......	......	......	......	......	48	
			3	......	40.50	59.50	......	1.42	......	......	......	......	......	......	......		
Same (run of mine, 30 tons)	1213	C	1	1.75	36.77	55.14	6.34	.90	5.28	78.00	1.54	7.94	.4	7,837	14,107	261	......
			2	......	37.42	56.13	6.45	.92	5.18	79.39	1.57	6.49	......	7,977	14,359	48	
			3	......	40.00	60.00	......	.98	5.54	84.86	1.68	6.94	......	8,527	15,349		
			4	......	......	......	......	......	5.59	85.70	1.69	7.02	......	8,590	15,467		
Monongah, Monongah No. 6 mine, Pittsburgh bed (5,000 feet southwest of drift mouth, room 2 on right entry 3, 91-inch bed, 7½-foot cut).	2041	A	1	2.89	34.54	56.86	5.71	.69	......	......	......	......	1.3	7,800	14,040	290	1019
			2	......	35.57	58.55	5.88	.71	......	......	......	......	......	8,032	14,458	332	
			3	......	37.79	62.21	......	.75	......	......	......	......	......	8,534	15,361	336	
Same (5,000 feet northwest of drift mouth, room 1 off left entry 3, 7¾-foot bed, 89½-inch cut).	2042	A	1	2.68	35.97	55.78	5.57	1.06	......	......	......	......	1.4	......	......	290	1019
			2	......	36.96	57.32	5.72	1.09	......	......	......	......	......	......	......	18	
			3	......	39.20	60.80	......	1.16	......	......	......	......	......	......	......	23	
Same (lump, over ¾-inch screen)	2264	C	1	5.57	31.61	54.45	8.37	1.20	5.08	72.74	1.46	11.15	4.4	7,274	13,093	290	......
			2	......	33.47	57.67	8.86	1.27	4.72	77.03	1.55	6.57	......	7,703	13,865		
			3	......	36.72	63.28	......	1.39	5.18	84.52	1.70	7.21	......	8,452	15,214		
			4	......	......	......	......	......	5.26	85.70	1.72	7.32	......	8,539	15,370		
1 mile north of; Monongah No. 8 mine, Pittsburgh bed (1½ miles north of opening, north heading 3, 93$\frac{7}{16}$-inch bed, 90$\frac{7}{16}$-inch cut).	7586	A	1	3.13	32.96	56.41	7.50	.90	5.35	74.99	1.49	9.77	1.6	7,503	13,505	......	1020
			2	......	34.02	58.24	7.74	.93	5.16	77.41	1.54	7.22	......	7,745	13,941		
			3	......	36.87	63.13	......	1.01	5.59	83.90	1.67	7.83	......	8,395	15,111		
Same (1½ miles south, right entry 3 off south entry 2, 84½-inch bed, 82-inch cut).	7588	A	1	2.69	33.36	58.22	5.73	.77	......	......	......	......	1.2	7,743	13,937	......	1020
			2	......	34.28	59.83	5.89	.79	......	......	......	......	......	7,957	14,323		
			3	......	36.43	63.57	......	.84	......	......	......	......	......	8,455	15,219		
Same, 3,900 feet northwest of opening, from face of north entry 3.	7418	B	1	2.59	33.10	57.72	6.59	......	......	......	......	......	1.40	......	......	......	1020
			2	......	33.98	59.25	6.77	......	......	......	......	......	......	......	......		
			3	......	36.45	63.55	......	......	......	......	......	......	......	......	......		
Same, 3,400 feet northwest of opening, from air course 3, off south heading 2.	7419	B	1	2.79	31.85	59.43	5.93	......	......	......	......	......	1.60	......	......	......	1020
			2	......	32.76	61.14	6.10	......	......	......	......	......	......	......	......		
			3	......	34.89	65.11	......	......	......	......	......	......	......	......	......		
MERCER COUNTY.																	
Coaldale, Coaldale mine, Pocahontas No. 3 bed (pillar room 8, entry 5, 129½-inch cut).	8387	A	1	3.74	13.86	78.20	4.20	.77	......	......	......	......	3.0	......	......	......	1021
			2	......	14.40	81.24	4.36	.80	......	......	......	......	......	......	......		
			3	......	15.06	84.94	......	.84	......	......	......	......	......	......	......		
Same (pillar, room 16, on left entry 9, 106½-inch cut).	8388	A	1	2.87	14.98	77.65	4.50	.69	......	......	......	......	2.3	......	......	......	1021
			2	......	15.42	79.95	4.63	.71	......	......	......	......	......	......	......		
			3	......	16.17	83.83	......	.74	......	......	......	......	......	......	......		
Same (pillar, room 10, on left entry 12 9¼-foot cut).	8389	A	1	3.13	15.52	77.10	4.25	.73	......	......	......	......	2.4	......	......	......	1021
			2	......	16.02	79.59	4.39	.75	......	......	......	......	......	......	......		
			3	......	16.76	83.24	......	.78	......	......	......	......	......	......	......		
Same (pillar, room 1, on right entry 13, 98½-inch cut).	8391	A	1	3.58	15.13	77.10	4.19	.62	......	......	......	......	2.8	......	......	......	1021
			2	......	15.69	79.96	4.35	.64	......	......	......	......	......	......	......		
			3	......	16.40	83.60	......	.67	......	......	......	......	......	......	......		
Same (pillar, room 17, on right entry 5½, 10¾-foot cut).	8390	A	1	3.53	15.60	77.62	3.25	.74	......	......	......	......	2.8	......	......	......	1021
			2	......	16.17	80.46	3.37	.77	......	......	......	......	......	......	......		
			3	......	16.73	83.27	......	.80	......	......	......	......	......	......	......		
Same (composite of Nos. 8387–8391)	8468	......	1	3.43	14.58	77.89	4.10	.67	4.79	83.79	1.06	5.59	2.7	8,112	14,602	......	1021
			2	......	15.10	80.65	4.25	.69	4.57	86.76	1.10	2.63	......	8,400	15,120		
			3	......	15.77	84.23	......	.72	4.77	90.61	1.15	2.75	......	8,773	15,791		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
MERCER COUNTY—continued.																	
Coopers, 1 mile northwest of; East Mill Creek mine, Pocahontas No. 3 bed (pillar, room 4, on cross entry 2, 107-inch cut).	8397	A	1	4.47	14.58	76.09	4.86	0.69	......	......	......	......	3.8	7,920	14,256	......	1021
			2	......	15.26	79.65	5.09	.72	......	......	......	......	......	8,291	14,924		
			3	......	16.08	83.92	......	.76	......	......	......	......	......	8,735	15,623		
Same (Taber entry, 800 feet north of Taylor entry, 7½-foot cut).	8396	A	1	3.78	15.40	76.80	4.02	.84	4.69	84.04	1.15	5.26	3.1	8,118	14,612	......	1021
			2	......	16.01	79.81	4.18	.87	4.44	87.34	1.20	1.97	......	8,437	15,187		
			3	......	16.71	83.29	......	.91	4.63	91.15	1.25	2.06	......	8,805	15.849		
West Mill Creek mine, Pocahontas No. 3 bed (pillar, room 16, on Gammon's entry, 110-inch cut).	8394	A	1	2.92	16.08	76.14	4.86	.87	......	......	......	......	2.2	......	......	......	1021
			2	......	16.56	78.43	5.01	.90	......	......	......	......	......	......	......		
			3	......	17.43	82.57	......	.95	......	......	......	......	......	......	......		
Same (pillar, room 17, on Keystone entry, 8¾-foot cut).	8395	A	1	3.72	15.63	75.79	4.86	.81	......	......	......	......	3.0	......	......	......	1021
			2	......	16.23	78.72	5.05	.84	......	......	......	......	......	......	......		
			3	......	17.09	82.91	......	.88	......	......	......	......	......	......	......		
Same (tunnel entry, heading for entry 7, 109-inch cut).	8392	A	1	3.25	15.38	77.57	3.80	.80	......	......	......	......	2.5	......	......	......	1021
			2	......	15.90	80.17	3.93	.83	......	......	......	......	......	......	......		
			3	......	16.55	83.45	......	.86	......	......	......	......	......	......	......		
Same (pillar, room 9, on Jackson entry, in west fork drift, 107½-inch cut).	8393	A	1	2.98	16.35	76.74	3.93	.65	......	......	......	......	2.3	8,164	14,695	......	1021
			2	......	16.85	79.10	4.05	.67	......	......	......	......	......	8,415	15,147		
			3	......	17.56	82.44	......	.70	......	......	......	......	......	8,770	15,786		
Same (composite of Nos. 8392, 8394, and 8395)..	8476	......	1	3.20	15.69	76.49	4.62	.83	4.83	82.96	1.10	5.66	2.6	8,060	14,508	......	1021
			2	......	16.21	79.02	4.77	.86	4.62	85.71	1.14	2.90	......	8,327	14,989		
			3	......	17.02	82.98	......	.90	4.85	90.00	1.20	3.05	......	8,744	15,739		
Goodwill, ½ mile north of; Goodwill mine, Pocahontas No. 3 bed (cross entry 3, off Jewells haulway, 2,200 feet north of the drift mouth, 50¾-inch cut).	8718	A	1	3.3	15.0	78.4	3.3	.55	......	......	......	......	2.5	......	......	......	1023
			2	......	15.5	81.1	3.4	.60	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.60	......	......	......	......	......	......	......		
Same (Smith's entry, 2,900 feet northeast of drift mouth, 53½-inch cut).	8712	A	1	2.8	15.5	77.7	4.0	.60	......	......	......	......	2.0	......	......	......	1023
			2	......	16.0	79.9	4.1	.60	......	......	......	......	......	......	......		
			3	......	17.0	83.0	......	.65	......	......	......	......	......	......	......		
Same (pillar, room 1, middle drift, 2,500 feet N. 80° E of drift mouth, 52¾-inch cut).	8713	A	1	2.9	15.5	77.8	3.8	.55	......	......	......	......	2.0	8,185	14,730	......	1023
			2	......	16.0	80.0	4.0	.55	......	......	......	......	......	8,430	15,170		
			3	......	16.5	83.5	......	.60	......	......	......	......	......	8,775	15,790		
Same (composite of Nos. 8712 and 8718)........	8834	......	1	3.1	15.5	77.6	3.77	.56	4.72	84.93	1.03	4.99	2.3	8,175	14,720	......	1023
			2	......	16.0	80.1	3.89	.58	4.51	87.66	1.06	2.30	......	8,440	15,190		
			3	......	16.5	83.5	......	.60	4.69	91.21	1.10	2.40	......	8,780	15,810		

½ mile northwest of; Louisville No. 2 mine, Pocahontas No. 3 bed (room 11, on left entry 6, 4,300 feet N. 40° E. of drift mouth, 52¾-inch cut).	8717	A	1	3.1	14.0	79.5	3.4	.55	......	......	......	......	2.3	......	......	......	1024
			2	......	14.5	82.0	3.5	.55	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.60	......	......	......	......	......	......	......		
Same (pillar, room 22, off left entry 4, 3,350 feet N. 15° E. of drift mouth, 4½-foot cut).	8721	A	1	3.0	14.5	79.2	3.3	.55	......	......	......	......	2.3	......	......	......	1024
			2	......	15.0	81.6	3.4	.55	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.60	......	......	......	......	......	......	......		
Same (left air course 7, 4,500 feet N. 45° E. of drift mouth, 51½-inch cut).	8715	A	1	3.0	13.0	80.0	4.0	.55	......	......	......	......	2.1	......	......	......	1024
			2	......	13.5	82.4	4.1	.60	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.60	......	......	......	......	......	......	......		
Same (left entry 3½, cut-off, 2,750 feet north of drift mouth, 4⅔-foot cut).	8719	A	1	2.9	13.5	80.1	3.5	.55	......	......	......	......	2.1	......	......	......	1024
			2	......	14.0	82.4	3.6	.55	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.60	......	......	......	......	......	......	......		
Same (pillar, room 3, on right entry 5, 3,300 feet N. 45° E. from drift mouth, 50¾-inch cut).	8720	A	1	3.0	13.5	80.1	3.4	.55	......	......	......	......	2.2	......	......	......	1024
			2	......	14.0	82.5	3.5	.60	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.60	......	......	......	......	......	......	......		
Same (composite of Nos. 8715, 8717, and 8719)	8791	......	1	2.9	14.0	79.4	3.68	.53	4.66	84.55	1.10	5.48	2.2	8,235	14,830	......	1024
			2	......	14.5	81.7	3.79	.55	4.47	87.09	1.13	2.97	......	8,485	15,270		
			3	......	15.0	85.0	......	.57	4.65	90.52	1.17	3.09	......	8,820	15,870		
Same (composite of Nos. 8720 and 8721)	8790	......	1	3.0	14.0	79.5	3.46	.56	4.70	84.82	1.12	5.34	2.3	8,250	14,850	......	1024
			2	......	14.5	81.9	3.57	.58	4.51	87.44	1.16	2.74	......	8,505	15,310		
			3	......	15.0	85.0	......	.60	4.68	90.68	1.20	2.84	......	8,820	15,880		
1 mile northwest of; Louisville No. 3 mine, Pocahontas No. 3 bed (right entry 4, 1,700 feet N. 15° W. of drift mouth, 61¼-inch cut).	8714	A	1	3.3	13.5	79.9	3.32	.54	4.65	85.06	1.05	5.38	2.6	8,225	14,810	......	1024
			2	......	14.0	82.6	3.43	.56	4.44	87.94	1.09	2.54	......	8,505	15,310		
			3	......	14.5	85.5	......	.58	4.60	91.06	1.13	2.63	......	8,805	15,850		
Same (pillar, left entry 3, 1,400 feet N. 80° W. from drift mouth, 57¾-inch cut).	8716	A	1	3.1	13.5	79.8	3.6	.55	......	......	......	......	2.3	8,185	14,740	......	1024
			2	......	14.0	82.3	3.7	.55	......	......	......	......	......	8,450	15,210		
			3	......	14.5	85.5	......	.60	......	......	......	......	......	8,770	15,790		
Hiawatha, Hiawatha mine, Pocahontas No. 3 bed (left air course 1, 1,300 feet north of drift mouth, 53½-inch cut).	8374	A	1	3.58	12.23	79.35	4.84	.61	......	......	......	......	2.8	......	......	......	1025
			2	......	12.68	82.30	5.02	.63	......	......	......	......	......	......	......		
			3	......	13.35	86.65	......	.66	......	......	......	......	......	......	......		
Same (room 3 on left entry 2, 1,400 feet northeast of drift mouth, 53¾-inch cut).	8375	A	1	3.20	12.27	79.80	4.73	.65	......	......	......	......	2.4	......	......	......	1025
			2	......	12.68	82.43	4.89	.67	......	......	......	......	......	......	......		
			3	......	13.33	86.67	......	.70	......	......	......	......	......	......	......		
Same (main entry, 2,400 feet northeast of drift mouth, 55½-inch cut).	8376	A	1	3.86	12.18	78.10	5.86	.65	......	......	......	......	2.9	......	......	......	1025
			2	......	12.67	81.24	6.09	.68	......	......	......	......	......	......	......		
			3	......	13.49	86.51	......	.72	......	......	......	......	......	......	......		
Same (pillar, room 12 on right entry 2, 1,800 feet east of drift mouth, 53¾-inch cut).	8377	A	1	3.43	12.00	78.64	5.93	.61	......	......	......	......	2.7	......	......	......	1025
			2	......	12.43	81.43	6.14	.63	......	......	......	......	......	......	......		
			3	......	13.24	86.76	......	.67	......	......	......	......	......	......	......		
Same (composite of Nos. 8374–8377)	8461	......	1	3.41	12.91	78.26	5.42	.64	4.60	82.86	1.10	5.38	2.7	7,995	14,391	......	1025
			2	......	13.37	81.02	5.61	.66	4.37	85.78	1.14	2.44	......	8,277	14,899		
			3	......	14.16	85.84	......	.70	4.63	90.88	1.21	2.58	......	8,769	15,784		
Mora (McComas post office), experimental drift, No. 6 bed (midway between entrance and face of drift, 37½-inch cut).	1244	A	1	2.63	19.50	74.74	3.13	.57	......	......	......	......	2.3	......	......	261	1026
			2	......	20.03	76.76	3.21	.59	......	......	......	......	......	......	......	48	
			3	......	20.69	79.31	......	.61	......	......	......	......	......	......	......	23	
Same (face of drift, 47-inch cut)	1240	A	1	2.94	18.10	75.34	3.62	.48	......	......	......	......	2.4	8,291	14,924	261	1026
			2	......	18.65	77.62	3.73	.49	......	......	......	......	......	8,542	15,376	48	
			3	......	19.37	80.63	......	.51	......	......	......	......	......	8,873	15,971		
Same (over ¾-inch screen)	1471	C	1	1.75	18.59	75.08	4.58	.56	4.65	84.97	1.06	4.18	1.1	8,346	15,023	261	......
			2	......	18.92	76.42	4.66	.57	4.54	86.48	1.08	2.67	......	8,495	15,291	48	
			3	......	19.85	80.15	......	.60	4.76	90.71	1.13	2.80	......	8,910	16,038		
			4	......	......	......	......	......	4.79	91.26	1.14	2.81	......	8,950	16,110		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
MERCER COUNTY—continued.																	
Mora, experimental drift—Continued.																	
½ mile west of; Crane Creek Nos. 1 and 2 mines, Pocahontas No. 3 bed (cross entry 14, 3,200 feet northwest of drift mouth, 50⅜-inch cut).	10413	A	1	3.44	16.06	77.01	3.49	0.58	......	......	......	......	3.1	8,155	14,679	......	1026
			2	......	16.63	79.76	3.61	.60	......	......	......	......	......	8,445	15,201		
			3	......	17.25	82.75	......	.62	......	......	......	......	......	8,762	15,772		
Same (main heading 1, 4,300 feet north of drift mouth, 50⅝-inch cut).	10414	A	1	3.14	16.78	76.06	4.02	.55	......	......	......	......	2.7	8,154	14,677	......	1026
			2	......	17.33	78.52	4.15	.57	......	......	......	......	......	8,418	15,152		
			3	......	18.08	81.92	......	.59	......	......	......	......	......	8,782	15,808		
Same (chain pillar, room 10, between cross entries 1 and 2, main heading, 1,400 feet northeast of drift mouth, 49⅝-inch cut).	10416	A	1	3.96	15.96	75.61	4.47	.49	......	......	......	......	3.5	8,050	14,490	......	1026
			2	......	16.62	78.73	4.65	.51	......	......	......	......	......	8,381	15,086		
			3	......	17.43	82.57	......	.53	......	......	......	......	......	8,790	15,822		
Same (Ozark heading, 4,400 feet northeast of drift mouth, 54-inch cut).	10415	A	1	3.36	16.59	75.62	4.43	.58	......	......	......	......	2.9	8,067	14,521	......	1026
			2	......	17.17	78.25	4.58	.60	......	......	......	......	......	8,348	15,026		
			3	......	17.99	82.01	......	.63	......	......	......	......	......	8,749	15,748		
Same (Pen entry, 4,800 feet north of drift mouth, 51⅜-inch cut).	10417	A	1	2.73	15.77	76.48	5.02	.53	......	......	......	......	2.3	8,089	14,560	......	1026
			2	......	16.21	78.63	5.16	.54	......	......	......	......	......	8,316	14,969		
			3	......	17.09	82.91	......	.57	......	......	......	......	......	8,768	15,782		
Same (composite of Nos. 10413–10417)..........	10436	A	1	3.43	16.01	76.24	4.32	.55	4.72	83.75	1.08	5.58	2.9	8,102	14,584	......	1026
			2	......	16.58	78.95	4.47	.57	4.49	86.72	1.12	2.63	......	8,390	15,102		
			3	......	17.36	82.64	......	.61	4.70	90.78	1.17	2.74	......	8,783	15,809		
1 mile north of: Pinnacle mine, Pocahontas No. 3 bed (cross entry 1, 3,300 feet east of drift mouth, 44½-inch cut).	10418	A	1	2.96	15.87	77.95	3.22	.52	......	......	......	......	2.5	8,249	14,848	......	1027
			2	......	16.35	80.33	3.32	.54	......	......	......	......	......	8,500	15,300		
			3	......	16.91	83.09	......	.56	......	......	......	......	......	8,792	15,826		
Same (pillar on right entry 4, off entry 13, 1,500 feet northeast of drift mouth, 52⅜-inch cut).	10419	A	1	3.22	16.07	77.44	3.27	.51	......	......	......	......	2.8	8,210	14,778	......	1027
			2	......	16.61	80.01	3.38	.53	......	......	......	......	......	8,483	15,269		
			3	......	17.19	82.81	......	.55	......	......	......	......	......	8,780	15,804		
Same (Thomas heading, 3,600 feet north of drift mouth, 49⅜-inch cut).	10420	A	1	3.73	15.48	77.50	3.29	.51	......	......	......	......	3.4	8,151	14,672	......	1027
			2	......	16.08	80.50	3.42	.53	......	......	......	......	......	8,466	15,239		
			3	......	16.65	83.35	......	.55	......	......	......	......	......	8,766	15,779		
Same (Cobbler heading off main heading 2, 2,900 feet east of drift mouth, 43¾-inch cut).	10421	A	1	2.82	16.11	77.26	3.81	.56	......	......	......	......	2.5	8,172	14,710	......	1027
			2	......	16.58	79.50	3.92	.58	......	......	......	......	......	8,409	15,136		
			3	......	17.26	82.74	......	.60	......	......	......	......	......	8,752	15,754		
Same (pillar 2, on cross entry 8, main heading 1, 2,400 feet southeast of drift mouth, 48-inch cut).	10422	A	1	2.81	16.20	77.73	3.26	.49	......	......	......	......	2.4	8,238	14,828	......	1027
			2	......	16.65	80.00	3.35	.50	......	......	......	......	......	8,476	15,257		
			3	......	17.23	82.77	......	.52	......	......	......	......	......	8,770	15,786		

Same (composite of Nos. 10418–10422)……….	10437	A	1	3.40	16.16	76.99	3.45	.51	4.86	85.04	1.09	5.05	2.9	8,165	14,697	......	1027
			2	......	16.73	79.70	3.57	.53	4.64	88.03	1.13	2.10	......	8,452	15,214		
			3	......	17.35	82.65	......	.55	4.81	91.29	1.17	2.18	......	8,765	15,777		
Simmons, 1½ miles northwest of; Buckeye mine, Pocahontas No. 3 bed (Simmons's entry, 72½-inch cut).	8564	A	1	4.5	13.5	78.5	3.5	.85	......	......	......	......	3.8	......	......	......	1028
			2	......	14.0	82.3	3.7	.85	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.90	......	......	......	......	......	......	......		
Same (cross entry 7 off Simmons entry, 5½-foot cut).	8565	A	1	4.4	14.0	78.3	3.3	.70	......	......	......	......	3.8	......	......	......	1028
			2	......	14.5	82.0	3.5	.75	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.75	......	......	......	......	......	......	......		
Same (room 10 off cross entry 5, 5¼-foot cut)…	8566	A	1	3.7	13.0	79.6	3.7	.95	......	......	......	......	3.1	......	......	......	1028
			2	......	13.5	82.7	3.8	.95	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	1.00	......	......	......	......	......	......	......		
Same (pillar, room 11 on Newman entry, 67½-inch cut).	8570	A	1	3.5	14.0	79.4	3.1	.85	......	......	......	......	3.0	8,190	14,740	......	1028
			2	......	14.5	82.3	3.2	.90	......	......	......	......	......	8,485	15,280		
			3	......	15.0	85.0	......	.90	......	......	......	......	......	8,770	15,790		
Same (room 8, on Bennett's entry, 67¼-inch cut).	8567	A	1	3.7	14.0	79.3	3.0	.80	......	......	......	......	3.1	......	......	......	1028
			2	......	14.5	82.4	3.1	.85	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.90	......	......	......	......	......	......	......		
Same (Price's entry, 5¾-foot cut)……………	8568	A	1	4.6	13.5	79.1	2.8	.60	......	......	......	......	4.1	......	......	......	1028
			2	......	14.0	83.0	3.0	.65	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.65	......	......	......	......	......	......	......		
Same (room 11 on cross entry 3, 58¼-inch cut)…	8569	A	1	3.3	14.0	79.0	3.7	.55	......	......	......	......	2.5	......	......	......	1028
			2	......	14.5	81.7	3.8	.60	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.60	......	......	......	......	......	......	......		
Same (composite of Nos. 8564–8569)…………	8675	......	1	3.8	13.5	79.4	3.34	.80	4.78	82.67	1.11	7.30	3.4	8,150	14,670	......	1028
			2	......	14.0	82.5	3.47	.83	4.52	85.97	1.15	4.06	......	8,475	15,250		
			3	......	14.5	85.5	......	.86	4.68	89.06	1.19	4.21	......	8,780	15,800		
2 miles northwest of; Booth-Bowen mine, Pocahontas No. 3 bed (entry 9 off Bird Hunter's entry, 58-inch cut).	8549	A	1	3.7	14.0	77.6	4.7	.60	......	......	......	......	3.0	......	......	......	1029
			2	......	14.5	80.7	4.8	.60	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.65	......	......	......	......	......	......	......		
Same (entry 6 off Bird Hunter's entry, 55¾-inch cut).	8550	A	1	3.7	14.0	77.9	4.4	.55	......	......	......	......	3.0	......	......	......	1029
			2	......	15.0	80.4	4.6	.55	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.60	......	......	......	......	......	......	......		
Same (butt entry 9 off Kansas City entry, 55½-inch cut).	8551	A	1	3.2	13.0	80.2	3.6	.55	......	......	......	......	2.6	......	......	......	1029
			2	......	13.5	82.8	3.7	.55	......	......	......	......	......	......	......		
			3	......	14.0	86.0	......	.55	......	......	......	......	......	......	......		
Same (pillar, room 9 on Yukon entry, 84½-inch cut).	8552	A	1	3.2	13.5	79.6	3.7	.55	......	......	......	......	2.6	......	......	......	1029
			2	......	14.0	82.1	3.9	.60	......	......	......	......	......	......	......		
			3	......	14.5	85.5	......	.60	......	......	......	......	......	......	......		
Same (pillar 3 on entry 35, 97½-inch cut)………	8553	A	1	2.2	15.0	79.2	3.6	.50	......	......	......	......	1.6	......	......	......	1029
			2	......	15.5	80.8	3.7	.50	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.55	......	......	......	......	......	......	......		
Same (pillar, room 21 on Meadow's entry, 84¼-inch cut).	8554	A	1	2.9	14.5	78.5	4.1	.55	......	......	......	......	2.3	......	......	......	1029
			2	......	15.0	80.8	4.2	.60	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.60	......	......	......	......	......	......	......		
Same (composite of Nos. 8549–8551)…………	8683	......	1	3.4	13.5	79.0	4.13	.55	4.61	83.28	1.09	6.34	2.9	8,080	14,540	......	1029
			2	......	14.0	81.7	4.28	.57	4.38	86.24	1.13	3.40	......	8,365	15,060		
			3	......	14.5	85.5	......	.60	4.58	90.09	1.18	3.55	......	8,740	15,730		
Same (composite of Nos. 8552–8554)…………	8682	......	1	2.8	14.0	79.5	3.7	.57	4.66	84.84	1.13	5.10	2.2	8,190	14,740	......	1029
			2	......	14.5	81.7	3.81	.59	4.48	87.30	1.16	2.66	......	8,430	15,170		
			3	......	15.0	85.0	......	.61	4.66	90.76	1.21	2.76	......	8,765	15,770		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
MERCER COUNTY—continued.																	
Simmons—Continued.																	
2 miles west of; Caswell-Elkhorn mine, Pocahontas No. 3 bed (left entry 6, 3,800 feet northwest of drift mouth, 7½-foot cut).	8555	A	1	3.7	14.5	79.2	2.6	0.50					3.1				1030
			2		15.0	82.3	2.7	.50									
			3		15.5	84.5		.55									
Same (room 1 off right entry 4, 2,400 feet northwest of drift mouth, 6½-foot cut).	8556	A	1	3.4	14.5	78.7	3.4	.75					2.7				1030
			2		15.0	81.5	3.5	.75									
			3		15.5	84.5		.80									
Same (right entry 1, 1,400 feet north of drift mouth, 81¼-inch cut).	8557	A	1	4.1	14.0	77.7	4.2	.70					3.4	8,037	14,470		1030
			2		14.5	81.1	4.4	.75						8,380	15,080		
			3		15.0	85.0		.80						8,760	15,770		
Same (border-line entry off right entry 3, 2,800 feet north of drift mouth, 7¼-foot cut).	8558	A	1	3.3	14.0	78.6	4.1	.70					2.6				1030
			2		14.5	81.3	4.2	.75									
			3		15.0	85.0		.75									
Same (pillar 12 on left entry 3, 2,400 feet west of drift mouth, 78½-inch cut).	8559	A	1	4.5	14.5	77.6	3.4	.65					3.7	8,055	14,500		1030
			2		15.0	81.5	3.5	.65						8,430	15,170		
			3		15.5	84.5		.70						8,735	15,730		
Same (composite of Nos. 8555–8558)	8677		1	3.6	14.5	78.3	3.58	.70	4.60	84.95	1.16	5.01	3.0	8,150	14,670		1030
			2		15.0	81.3	3.72	.73	4.36	88.16	1.20	1.83		8,455	15,220		
			3		15.5	84.5		.76	4.53	91.56	1.25	1.90		8,780	15,810		
2 miles west of; Caswell-Hemlock mine, Pocahontas No. 3 bed (Charleston entry, 4,800 feet south of drift mouth, 89-inch cut).	8560	A	1	3.9	14.5	78.3	3.3	.90					3.2	8,170	14,710		1030
			2		15.0	81.6	3.4	.95						8,500	15,300		
			3		15.5	84.5		1.00						8,800	15,840		
Same (pillar, room 4 on straight entry, 5,600 feet south of drift mouth, 7¾-foot cut).	8561	A	1	3.6	14.5	77.8	4.1	.85					3.1				1030
			2		15.0	80.8	4.2	.90									
			3		15.5	84.5		.95									
Same (pillar, room 18 on Deacon's entry, 7,000 feet southeast of drift mouth, 82-inch cut).	8562	A	1	4.7	14.5	77.5	3.3	.60					3.9				1030
			2		15.0	81.5	3.5	.65									
			3		16.0	84.0		.65									
Same (pillar, room 8, cross entry 3, 6,700 feet south of drift mouth, 8¾-foot cut).	8563	A	1	5.0	14.0	75.9	5.1	.65					4.3				1030
			2		14.5	80.1	5.4	.65									
			3		15.5	84.5		.70									
Same (composite of Nos. 8561–8563)	8676		1	4.4	15.0	76.5	4.10	.73	4.82	81.14	1.11	8.10	3.8	8,040	14,470		1030
			2		15.5	80.2	4.29	.76	4.53	84.91	1.16	4.35		8,415	15,150		
			3		16.5	83.5		.79	4.73	88.71	1.21	4.56		8,790	15,820		

Springington, ½ mile east of; Spring mine, Pocahontas No. 3 bed (left entry 2, 3,600 feet from drift mouth, 53-inch cut).	8434	A	1	3.54	12.23	80.64	3.59	.59	......	......	......	......	2.7	......	......	......	1032
			2	......	12.68	83.60	3.72	.61	......	......	......	......	......	......	......		
			3	......	13.17	86.83	......	.63	......	......	......	......	......	......	......		
Same (Franklin entry, right entry 2 off left entry 2, 3,400 feet from drift mouth, 53½-inch cut).	8435	A	1	3.26	11.72	80.08	4.94	.59	......	......	......	......	2.1	......	......	......	1032
			2	......	12.11	82.78	5.11	.61	......	......	......	......	......	......	......		
			3	......	12.76	87.24	......	.64	......	......	......	......	......	......	......		
Same (main heading, 3,600 feet from drift mouth, 56¼-inch cut).	8436	A	1	3.1	12.28	79.60	5.02	.63	......	......	......	......	2.1	......	......	......	1032
			2	......	12.67	82.15	5.18	.65	......	......	......	......	......	......	......		
			3	......	13.36	86.64	......	.69	......	......	......	......	......	......	......		
Same (Tazewell entry, 3,600 feet from drift mouth, 52½-inch cut).	8437	A	1	3.48	11.65	80.02	4.85	.54	......	......	......	......	2.5	......	......	......	1032
			2	......	12.07	82.90	5.03	.56	......	......	......	......	......	......	......		
			3	......	12.71	87.29	......	.59	......	......	......	......	......	......	......		
Same (left heading 1, 3,600 feet from drift mouth, 53¾-inch cut).	8438	A	1	3.45	11.57	80.19	4.79	.54	......	......	......	......	2.5	......	......	......	1032
			2	......	11.98	83.06	4.96	.56	......	......	......	......	......	......	......		
			3	......	12.61	87.39	......	.59	......	......	......	......	......	......	......		
Same (composite of Nos. 8434–8438)............	8473	......	1	3.24	12.31	79.75	4.70	.59	4.75	84.88	.97	4.11	2.4	8,072	14,532	......	1032
			2	......	12.72	82.42	4.86	.61	4.54	87.72	1.00	1.27	......	8,342	15,016		
			3	......	13.37	86.63	......	.64	4.77	92.20	1.05	1.34	......	8,768	15,782		
Wenonah (Dott post office), Wenonah mine, Pocahontas No. 3 bed (left entry 2, off main entry 2, 2,000 feet from drift mouth, 43⅞-inch cut).	8336	A	1	2.97	12.81	80.49	3.73	.57	......	......	......	......	2.4	......	......	......	1033
			2	......	13.20	82.96	3.84	.59	......	......	......	......	......	......	......		
			3	......	13.73	86.27	......	.61	......	......	......	......	......	......	......		
Same (left entry 2, off main entry 1, 39½-inch cut).	8333	A	1	3.78	12.56	79.66	4.00	.53	......	......	......	......	3.2	......	......	......	1038
			2	......	13.05	82.79	4.16	.55	......	......	......	......	......	......	......		
			3	......	13.62	86.38	......	.57	......	......	......	......	......	......	......		
Same (left heading 4, off main entry 1, 44½-inch cut).	8335	A	1	3.56	13.16	78.88	4.40	.59	......	......	......	......	3.0	......	......	......	1033
			2	......	13.65	81.79	4.56	.61	......	......	......	......	......	......	......		
			3	......	14.30	85.70	......	.64	......	......	......	......	......	......	......		
Same (main entry 1, 40¼-inch cut)............	8334	A	1	3.45	13.35	78.39	4.81	.56	......	......	......	......	2.9	......	......	......	1033
			2	......	13.83	81.19	4.98	.58	......	......	......	......	......	......	......		
			3	......	14.55	85.45	......	.61	......	......	......	......	......	......	......		
Same (composite of Nos. 8333–8336)............	8424	......	1	3.58	13.17	79.10	4.15	.56	4.90	83.59	1.07	5.73	2.9	8,110	14,598	......	1033
			2	......	13.66	82.04	4.30	.58	4.67	86.69	1.11	2.65	......	8,411	15,140		
			3	......	14.27	85.73	......	.61	4.88	90.58	1.16	2.77	......	8,789	15,820		
Widemouth, one-half mile west of; Piedmont mine, Pocahontas No. 4 (?) bed (room 2, off right heading 10, 2,600 feet southwest of drift mouth, 48-inch cut).	10423	A	1	3.21	14.79	75.59	6.41	.48	......	......	......	......	2.8	7,886	14,195	......	1034
			2	......	15.28	78.10	6.62	.50	......	......	......	......	......	8,147	14,665		
			3	......	16.36	83.64	......	.54	......	......	......	......	......	8,725	15,705		
Same (left entry 8, off main entry 1, 3,600 feet southwest of drift mouth, 50⅜-inch cut).	10424	A	1	3.58	15.23	75.28	5.91	.50	......	......	......	......	3.1	7,914	14,245	......	1034
			2	......	15.80	78.07	6.13	.52	......	......	......	......	......	8,208	14,774		
			3	......	16.83	83.17	......	.55	......	......	......	......	......	8,744	15,739		
Same (left entry 2, off main entry 3, 900 feet north of drift mouth, 54½-inch cut).	10425	A	1	3.24	16.57	75.66	4.53	.55	......	......	......	......	2.8	8,080	14,544	......	1034
			2	......	17.13	78.19	4.68	.57	......	......	......	......	......	8,351	15,031		
			3	......	17.97	82.03	......	.60	......	......	......	......	......	8,761	15,769		
Same (main heading 2, 1,100 feet northeast of drift mouth, 49⅜-inch cut).	10426	A	1	3.32	15.38	75.98	5.32	.46	......	......	......	......	2.8	8,011	14,421	......	1034
			2	......	15.91	78.59	5.50	.48	......	......	......	......	......	8,286	14,916		
			3	......	16.84	83.16	......	.51	......	......	......	......	......	8,768	15,784		
Same (composite of Nos. 10423–10426)..........	10438	A	1	3.37	15.65	75.49	5.49	.54	4.70	82.95	1.15	5.17	2.9	7,984	14,371	......	1034
			2	......	16.20	78.12	5.68	.56	4.48	85.84	1.19	2.25	......	8,263	14,873		
			3	......	17.18	82.82	......	.59	4.75	91.01	1.26	2.39	......	8,760	15,768		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
MINERAL COUNTY.																	
Elk Garden, Tyson No. 10 mine, Sewickley bed (pillar off room 4, off right heading, 160 feet northwest of drift mouth, $61\frac{11}{16}$-inch cut).	472	A	1	2.82	17.70	71.15	8.33	1.04						7,756	13,960		1035
			2		18.21	73.22	8.57	1.07						7,981	14,365		
			3		19.92	80.08		1.17						8,728	15,711		
Same (No. 6 pillar, off main air course, 430 feet southeast of drift mouth, 62-inch cut).	473	A	1	1.98	19.03	72.75	6.24	1.12						8,023	14,442		1035
			2		19.41	74.22	6.37	1.14						8,186	14,734		
			3		20.73	79.27		1.22						8,742	15,736		
Same (heading pillar, neck of room 8, right air course, 440 feet northwest of drift mouth, $68\frac{9}{16}$-inch cut).	483	A	1	4.26	18.02	70.42	7.30	.78						7,628	13,731		1035
			2		18.82	73.56	7.62	.81						7,968	14,342		
			3		20.37	79.63		.88						8,625	15,525		
Same (composite of Nos. 472, 473, and 483)	10458	A	1	1.13	17.99	73.64	7.24	1.23	4.55	81.78	1.66	3.54					1035
			2		18.19	74.49	7.32	1.24	4.47	82.71	1.68	2.58					
			3		19.63	80.37		1.34	4.82	89.24	1.81	2.79					
1 mile north of; Ott No. 20 mine, Upper Freeport seam (Baldwin heading, 50¾-inch cut).	484	A	1	1.29	14.77	72.55	11.39	1.53						7,574	13,634		1035
			2		14.96	73.50	11.54	1.55						7,673	13,812		
			3		16.91	83.09		1.75						8,674	15,614		
Same (Atlantic heading, 37-inch cut)	485	A	1	1.11	16.44	71.44	11.01	2.60						7,684	13,832		1035
			2		16.62	72.25	11.13	2.63						7,771	13,987		
			3		18.70	81.30		2.96						8,744	15,739		
Same (composite of Nos. 484 and 485)	10457	A	1	.74	15.26	72.66	11.34	2.31	4.20	79.11	1.37	1.67					1035
			2		15.37	73.20	11.43	2.33	4.15	79.70	1.38	1.01					
			3		17.35	82.65		2.63	4.69	89.99	1.56	1.13					
1 mile southwest of Elk Garden No. 6 mine[a] (1,200 feet southeast, room 5, off heading 3, 9-foot 10½-inch bed, 9-foot 10-inch cut).	7626	A	1	.90	16.29	72.91	9.90	.68						7,779	14,002		1036
			2		16.44	73.57	9.99	.69						7,850	14,130		
			3		18.26	81.74		.77						8,721	15,698		
Same (700 feet south, room 2, off right heading 2, 10-foot 5¾-inch bed, 10-foot 4¼-inch cut).	7627	A	1	.82	16.10	73.87	9.21	1.10						7,835	14,103		1036
			2		16.23	74.48	9.29	1.11						7,900	14,220		
			3		17.89	82.11		1.22						8,708	15,674		
Oakmont, 1½ miles northwest of; Kittanning No. 14 mine, Upper Freeport bed, room 6, off line heading on dip 2 (42⅞-inch cut).	492	A	1	2.03	14.74	76.43	6.80	.77						7,998	14,397		1037
			2		15.05	78.01	6.94	.79						8,164	14,695		
			3		16.17	83.83		.85						8,773	15,791		
Same (right heading 2, off Harrison, off main heading, 40⅝-inch cut).	494	A	1	1.91	16.15	73.72	8.22	1.04						7,835	14,103		1037
			2		16.46	75.16	8.38	1.06						7,988	14,378		
			3		17.97	82.03		1.16						8,718	15,693		

Same (composite of Nos. 492 and 494)	10453	A	1	1.00	15.10	76.11	7.79	.83	4.30	82.85	1.39	2.84					1037
			2		15.25	76.88	7.87	.84	4.23	83.69	1.40	1.97					
			3		16.55	83.45		.91	4.59	90.84	1.52	2.14					
Wabash, Wabash No. 9 mine, Georges Creek or Pittsburgh bed (pillar, opening 12, room 2, 131¾-inch cut).	493	A	1	1.99	17.72	71.91	8.38	1.11						7,840	14,112		1037
			2		18.08	73.37	8.55	1.13						7,999	14,399		
			3		19.77	80.23		1.24						8,747	15,745		
Same (opening 9 to right of main air course, 120¼-inch cut).	495	A	1	1.73	17.24	73.50	7.53	1.09						7,908	14,235		1037
			2		17.54	74.80	7.66	1.11						8,048	14,486		
			3		18.99	81.01		1.20						8,716	15,688		
Same (composite of 493 and 495)	10431	A	1	1.06	17.20	73.84	7.90	1.12	4.55	81.67	1.41	3.35					1037
			2		17.38	74.64	7.98	1.13	4.48	82.54	1.43	2.44					
			3		18.89	81.11		1.23	4.87	89.69	1.55	2.66					
MINGO COUNTY.																	
Glen Alum, Glen Alum mine, War Eagle bed (crosscut 900 feet from drift mouth, 63¼-inch cut).	2348	A	1	2.81	31.67	59.02	6.50	.66					1.5	7,754	13,957	290	1038
			2		32.59	60.72	6.69	.68						7,978	14,360	336	
			3		34.93	65.07		.73						8,550	15,390	18	
Same (3,000 feet from drift mouth, room 19, off entry 20, 74¼-inch cut).	2349	A	1	4.04	31.25	59.55	5.16	.64					2.4			290	1038
			2		32.57	62.05	5.38	.67								28	
			3		34.42	65.58		.71									
Same (run of mine)	2527	C	1	2.86	33.23	58.08	5.83	.67	5.01	78.38	1.43	8.68	1.6	7,836	14,105	290	
			2		34.21	59.79	6.00	.69	4.84	80.69	1.47	6.31		8,067	14,521		
			3		36.39	63.61		.73	5.14	85.84	1.57	6.72		8,582	15,448		
			4						5.17	86.48	1.58	6.77		8,629	15,532		
MONONGALIA COUNTY.																	
Morgantown, 4 miles southeast of; Richard mine, Upper Freeport bed (right entry 4, off main, 3¾-foot cut).	1109	A	1	2.21	29.44	60.03	8.32	.80					.8			261	1039
			2		30.11	61.38	8.51	.82								*48*	
			3		32.91	67.09		.90								28	
Same (airway near left entry 4, 50¼-inch cut)	1108	A	1	2.90	28.64	60.27	8.19	.75			1.34		1.5	7,745	13,941	261	1039
			2		29.50	62.07	8.43	.77			1.38			7,976	14,357	*48*	
			3		32.22	67.78		.84			1.51			8,711	15,680		
Same (run of mine)	1252	C	1	2.29	29.86	57.62	10.23	1.06	4.99	75.13	1.42	7.17	1.3	7,532	13,558	261	
			2		30.56	58.97	10.47	1.08	4.85	76.89	1.45	5.26		7,709	13,876	*48*	
			3		34.13	65.87		1.21	5.42	85.88	1.62	5.87		8,610	15,498		
			4						5.49	86.94	1.64	5.93		8,688	15,638		
NICHOLAS COUNTY.																	
Delphi, 3 miles northwest of; near head of Righthand Fork of Muddlety Creek, country bank of Packer, Harrison & O'Connor, Wattsville (137-inch) bed (middle and bottom benches, 5-foot cut).	1233	B	1	2.28	31.20	49.02	17.50	.68					.9			*48*	1040
			2		31.93	50.16	17.91	.70									
			3		38.90	61.10		.85									
Same (upper bench, 67-inch cut)	1236	B	1	2.27	33.67	55.64	8.42	1.05					.6			*48*	1040
			2		34.45	56.93	8.62	1.07									
			3		37.70	62.30		1.17									
Gilboa, 3 miles northwest of; at head of Rader Fork of Twentymile Creek, country bank, Wattsville (57¾-inch) bed, lower bench, 47-inch cut.	1363	B	1	2.83	33.53	53.32	10.32	.64					1.1			*48*	1040
			2		34.51	54.87	10.62	.66									
			3		38.61	61.39		.74									
Hookersville, east of; Hutchinson country bank near Wood's field, Wattsville, 99½-inch bed.	1362	B	1	2.29	31.93	51.31	14.47	1.20					1.0			*48*	1041
			2		32.68	52.51	14.81	1.23									
			3		38.35	61.65		1.44									

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[a] Big Vein (Georges Creek or Pittsburgh) bed.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
NICHOLAS COUNTY—continued.																	
Summersville, near; McRader country bank, No. 2 Gas bed, 35-inch section, lower bench, 23-inch cut.	1581	B	1	2.40	33.02	59.49	5.09	0.52	......	......	......	......	1.4	......	......	48	1041
			2	......	33.83	60.95	5.22	.53	......	......	......	......	......	......	......		
			3	......	35.69	64.31	......	.56	......	......	......	......	......	......	......		
Three-fourths mile from; country bank on J. E. Sims farm, No. 2 Gas (50-inch) bed, lower bench, 35½-inch cut.	1579	B	1	6.90	28.64	56.59	7.87	.71	......	......	......	......	5.0	......	......	48	1042
			2	......	30.76	60.79	8.45	.76	......	......	......	......	......	......	......		
			3	......	33.60	66.40	......	.83	......	......	......	......	......	......	......		
West of; on Fitzwater Branch of Peters Creek, country bank on C. H. Dunbar farm, No. 2 Gas (40¾-inch) bed, lower bench, 26-inch cut.	1582	B	1	3.51	31.62	60.25	4.62	.72	......	......	......	......	2.3	......	......	48	1042
			2	......	32.77	62.44	4.79	.75	......	......	......	......	......	......	......		
			3	......	34.42	65.58	......	.79	......	......	......	......	......	......	......		
1 mile south of; country bank on Backus farm, 51½-inch bed, stock-pile sample, No. 2 Gas bed.	1578	B	1	2.31	30.93	57.52	9.24	1.27	......	......	......	......	.8	......	......	48	1042
			2	......	31.66	58.88	9.46	1.30	......	......	......	......	......	......	......		
			3	......	34.97	65.03	......	1.44	......	......	......	......	......	......	......		
1 mile west of; head of McKee Creek, stripping on Neff farm, 60½-inch bed, 58-inch cut, No. 2 Gas bed.	1583	B	1	5.44	28.15	60.15	6.26	.67	......	......	......	......	3.4	......	......	48	1043
			2	......	29.77	63.61	6.62	.71	......	......	......	......	......	......	......		
			3	......	31.88	68.12	......	.76	......	......	......	......	......	......	......		
PRESTON COUNTY.																	
Bretz, Bretz mine, Upper Freeport bed (right room 1, off main entry, 96½-inch section, 37¾-inch cut).	1116	A	1	2.26	28.71	61.29	7.74	.85	......	......	1.30	......	1.1	7,777	13,999	290	1043
			2	......	29.37	62.71	7.92	.87	......	......	1.33	......	......	7,957	14,323	48	
			3	......	31.89	68.11	......	.94	......	......	1.44	......	......	8,641	15,554	18	
Same (left room 1, off main entry, 98½-inch section, 36-inch cut).	1117	A	1	2.26	28.53	60.63	8.58	1.26	......	......	......	......	1.2	......	......	336	1043
			2	......	29.19	62.03	8.78	1.29	......	......	......	......	......	......	......	48	
			3	......	32.00	68.00	......	1.41	......	......	......	......	......	......	......	23	
Same (run of mine, 25 tons)	1262	C	1	1.48	28.58	61.55	8.39	.90	4.89	77.82	1.48	6.52	.5	7,816	14,069	261	......
			2	......	29.01	62.47	8.52	.91	4.80	78.99	1.50	5.28	......	7,933	14,279	48	
			3	......	31.71	68.29	......	.99	5.25	86.34	1.64	5.78	......	8,672	15,610		
			4	......	......	......	......	......	5.30	87.20	1.66	5.84	......	8,736	15,725		
Same (1,300 feet from drift mouth, left heading 2, off main entry, 51¾-inch bed, 49¼-inch cut).	2054	A	1	3.57	27.38	62.84	6.21	.85	......	......	......	......	2.4	7,899	14,218	290	1043
			2	......	28.39	65.17	6.44	.88	......	......	......	......	......	8,191	14,744		
			3	......	30.34	69.66	......	.94	......	......	......	......	......	8,755	15,759		
Same (800 feet southwest of drift mouth, right entry 3, off main entry, 41-inch bed, 39-inch cut).	2055	A	1	3.47	28.65	62.70	5.18	.80	......	......	......	......	2.3	......	......	290	1043
			2	......	29.68	64.95	5.37	.83	......	......	......	......	......	......	......		
			3	......	31.36	68.64	......	.88	......	......	......	......	......	......	......		

Same (run of mine)	2250	C	1	3.91	26.68	59.30	10.11	1.07	4.69	74.73	1.56	7.84	2.6	7,428	13,370	290	......
			2	......	27.77	61.71	10.52	1.11	4.43	77.77	1.62	4.55	......	7,730	13,914		
			3	......	31.04	68.96	......	1.24	4.95	86.92	1.81	5.08	......	8,640	15,552		
			4	......	......	......	......	......	5.02	88.00	1.84	5.14	......	8,720	15,696		
2½ miles above; Bakerstown bed, prospect hole about ¼ mile below country bank from which car sample was shipped (200 feet in, main heading, 40-inch cut).	2056	A	1	3.22	29.54	59.91	7.33	1.73	......	......	......	......	2.3	7,775	13,995	290	1045
			2	......	30.52	61.91	7.57	1.79	......	......	......	......	......	8,034	14,461	336	
			3	......	33.01	66.99	......	1.94	......	......	......	......	......	8,692	15,646	48	
Same (offset 1, right of main entry, 175 feet from opening, 43-inch cut).	2057	A	1	4.05	28.70	61.65	5.60	1.16	......	......	......	......	3.1	......	......	290	1045
			2	......	29.91	64.25	5.84	1.21	......	......	......	......	......	......	......	23	
			3	......	31.76	68.24	......	1.29	......	......	......	......	......	......	......		
Same (car sample from country bank)	2332	C	1	3.46	27.29	61.13	8.12	1.45	4.68	76.98	1.37	7.40	2.5	7,705	13,869	290	......
			2	......	28.27	63.32	8.41	1.50	4.45	79.74	1.42	4.48	......	7,981	14,366		
			3	......	30.87	69.13	......	1.64	4.86	87.06	1.55	4.89	......	8,714	15,685		
			4	......	......	......	......	......	4.94	88.52	1.57	4.97	......	8,820	15,876		
RALEIGH COUNTY.																	
Beckley, ½ mile from; Sprague mine, Sewell bed (main entry, 3,000 feet from drift mouth, 52½-inch cut).	8015	A	1	3.29	16.77	77.53	2.41	.70	......	......	......	......	2.8	......	......	......	1045
			2	......	17.34	80.17	2.49	.72	......	......	......	......	......	......	......		
			3	......	17.78	82.22	......	.74	......	......	......	......	......	......	......		
Same (left entry 3, 3,000 feet from drift mouth, 46½-inch cut).	8016	A	1	3.32	17.31	76.76	2.61	.65	......	......	......	......	2.8	......	......	......	1045
			2	......	17.90	79.40	2.70	.67	......	......	......	......	......	......	......		
			3	......	18.40	81.60	......	.69	......	......	......	......	......	......	......		
Same (right entry 4, 2,500 feet from drift mouth, 56-inch cut).	8017	A	1	7.47	16.58	73.60	2.35	.67	......	......	......	......	7.1	......	......	......	1045
			2	......	17.92	79.54	2.54	.72	......	......	......	......	......	......	......		
			3	......	18.39	81.61	......	.74	......	......	......	......	......	......	......		
Same (left entry 5, 4,000 feet from drift mouth, 4½-foot cut).	8899	A	1	4.5	17.5	75.6	2.4	.80	......	......	......	......	3.7	8,140	14,650	......	1045
			2	......	18.0	79.5	2.5	.85	......	......	......	......	......	8,520	15,330		
			3	......	18.5	81.5	......	.85	......	......	......	......	......	8,740	15,730		
Same (left entry 2, 2,500 feet from drift mouth, 4-foot cut).	8900	A	1	3.9	19.0	72.9	4.2	.60	......	......	......	......	3.1	8,040	14,470	......	1045
			2	......	19.5	76.1	4.4	.65	......	......	......	......	......	8,360	15,050		
			3	......	20.5	79.5	......	.66	......	......	......	......	......	8,740	15,740		
Same (composite of Nos. 8015–8017)	8104	......	1	4.79	16.57	76.19	2.45	.64	5.04	83.42	1.51	6.94	4.2	8,101	14,582	......	1045
			2	......	17.40	80.03	2.57	.67	4.74	87.62	1.59	2.81	......	8,505	15,314		
			3	......	17.86	82.14	......	.69	4.87	89.93	1.63	2.88	......	8,733	15,719		
½ mile west of; Raleigh No. 5 mine, Sewell bed (left entry 4, 1,800 feet from drift mouth, 3½-foot cut).	8261	A	1	3.7	17.5	74.7	4.1	1.75	......	......	......	......	2.8	......	......	......	1046
			2	......	18.0	77.7	4.3	1.80	......	......	......	......	......	......	......		
			3	......	19.0	81.0	......	1.90	......	......	......	......	......	......	......		
Same (right entry 4, 1,800 feet from drift mouth, 39½-inch cut).	8260	A	1	3.7	15.5	77.6	3.2	.95	......	......	......	......	2.8	......	......	......	1046
			2	......	16.0	80.6	3.4	1.00	......	......	......	......	......	......	......		
			3	......	17.0	83.0	......	1.05	......	......	......	......	......	......	......		
Same (left entry 3, 1,400 feet from drift mouth, 3¾-foot cut).	8259	A	1	3.1	16.0	77.3	3.6	.70	......	......	......	......	2.2	......	......	......	1046
			2	......	16.5	79.7	3.8	.70	......	......	......	......	......	......	......		
			3	......	17.0	83.0	......	.75	......	......	......	......	......	......	......		
Same (composite of Nos. 8259–8261)	8310	......	1	3.3	17.0	76.0	3.66	1.15	5.03	83.67	1.55	4.94	2.6	8,155	14,680	......	1046
			2	......	17.5	78.7	3.79	1.19	4.82	86.55	1.60	2.05	......	8,435	15,180		
			3	......	18.5	81.5	......	1.24	5.01	89.96	1.66	2.13	......	8,765	15,780		
1½ miles from; Beckley mine, Sewell bed (main entry, 4,600 feet south of slope, 55½-inch cut).	8014	A	1	4.97	15.72	77.00	2.31	.83	......	......	......	......	4.5	......	......	......	1046
			2	......	16.54	81.03	2.43	.87	......	......	......	......	......	......	......		
			3	......	16.95	83.05	......	.89	......	......	......	......	......	......	......		
Same (north entry 3 off dip entry, 3,500 feet west of slope, 42½-inch cut).	8043	A	1	7.83	15.56	73.78	2.83	.70	......	......	......	......	7.3	......	......	......	1046
			2	......	16.88	80.05	3.07	.76	......	......	......	......	......	......	......		
			3	......	17.42	82.58	......	.78	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
RALEIGH COUNTY—continued.																	
Beckley, Beckley mine—Continued.																	
Same (south entry 3 off right entry 6, 4,000 feet southwest of slope, 44½-inch cut).	8044	A	1	3.95	15.98	76.15	3.92	0.63	......	......	......	......	3.3	......	......	......	1046
			2	......	16.64	79.28	4.08	.66	......	......	......	......	......	......	......		
			3	......	17.35	82.65	......	.69	......	......	......	......	......	......	......		
Same (rock heading, 3,500 feet southeast of slope, 51¾-inch cut).	8045	A	1	4.57	14.40	78.56	2.47	.67	......	......	......	......	3.7	......	......	......	1046
			2	......	15.09	82.32	2.59	.70	......	......	......	......	......	......	......		
			3	......	15.49	84.51	......	.72	......	......	......	......	......	......	......		
Same (composite of Nos. 8013, 8014, 8043–8045)..	8106	......	1	4.93	15.20	76.88	2.99	.78	5.09	82.28	1.37	7.49	4.3	8,041	14,474	......	1046
			2	......	15.99	80.86	3.15	.82	4.78	86.55	1.44	3.26	......	8,458	15,224		
			3	......	16.51	83.49	......	.85	4.94	89.36	1.49	3.36	......	8,733	15,719		
1½ miles from; Mabscot and Mabscot No. 2 mines, Sewell bed (main entry, 4,000 feet south of drift mouth, 43½-inch cut).	8011	A	1	3.18	15.39	78.86	2.57	.73	......	......	......	......	2.6	......	......	......	1047
			2	......	15.89	81.46	2.65	.75	......	......	......	......	......	......	......		
			3	......	16.32	83.68	......	.77	......	......	......	......	......	......	......		
Same (room 2 off left entry 3 off right entry 3, 3,500 feet southwest of drift mouth, 3¾-foot cut).	8012	A	1	2.72	14.74	80.04	2.50	.72	......	......	......	......	2.2	......	......	......	1047
			2	......	15.15	82.28	2.57	.74	......	......	......	......	......	......	......		
			3	......	15.55	84.45	......	.76	......	......	......	......	......	......	......		
Same (pillar 17, on left entry 8, 2,500 feet southeast of drift mouth, 43½-inch cut).	8046	A	1	3.71	14.08	79.06	3.15	.67	......	......	......	......	3.0	......	......	......	1047
			2	......	14.62	82.11	3.27	.70	......	......	......	......	......	......	......		
			3	......	15.11	84.89	......	.72	......	......	......	......	......	......	......		
Same(main entry in Mabscot No. 2,100 feet west of drift mouth, 51½-inch cut).	8395	A	1	6.3	15.5	74.1	4.1	1.10	......	......	......	......	5.5	7,875	14,180	......	1047
			2	......	16.5	79.1	4.4	1.20	......	......	......	......	......	8,400	15,120		
			3	......	17.0	83.0	......	1.25	......	......	......	......	......	8,790	15,820		
Same (right air course 2, 800 feet southwest of drift mouth, 43½-inch cut).	8896	A	1	4.5	16.0	77.1	2.4	.60	......	......	......	......	3.7	8,130	14,630	......	1047
			2	......	16.5	81.0	2.5	.65	......	......	......	......	......	8,510	15,320		
			3	......	17.0	83.0	......	.65	......	......	......	......	......	8,730	15,710		
Same (composite of Nos. 8011, 8012, and 8046)...	8111	......	1	3.26	15.72	78.19	2.83	.69	4.97	84.12	1.61	5.78	2.6	8,208	14,774	......	1047
			2	......	16.24	80.83	2.93	.71	4.77	86.95	1.66	2.98	......	8,485	15,273		
			3	......	16.73	83.27	......	.73	4.91	89.58	1.71	3.07	......	8,741	15,734		
Cranberry, Cranberry mine, Sewell bed (main east entry, 2,500 feet east of shaft, 57½-inch cut).	8037	A	1	4.10	16.02	76.75	3.13	.55	......	......	......	......	3.4	......	......	......	1048
			2	......	16.71	80.03	3.26	.57	......	......	......	......	......	......	......		
			3	......	17.27	82.73	......	.59	......	......	......	......	......	......	......		
Same (left entry 3, 2,000 feet northeast of shaft, 4-foot cut).	8038	A	1	4.80	15.88	77.29	2.03	.60	......	......	......	......	3.8	......	......	......	1048
			2	......	16.68	81.19	2.13	.63	......	......	......	......	......	......	......		
			3	......	17.04	82.96	......	.64	......	......	......	......	......	......	......		

Same (right entry 4, 2,500 feet southeast of shaft, 53¼-inch cut).	8039	A	1	4.20	14.78	79.20	1.82	.47					3.5				1048
			2		15.43	82.67	1.90	.49									
			3		15.73	84.27		.50									
Same (right air course 3, 200 feet southeast of shaft, 55½-inch cut).	8897	A	1	7.2	16.0	74.2	2.6	.65					6.4	7,910	14,240		1048
			2		17.5	79.7	2.8	.70						8,525	15,350		
			3		17.5	82.5		.75						8,770	15,780		
Same (room 5 off left air course 2, 1,500 feet northeast of shaft, 3⅜-foot cut).	8898	A	1	3.5	16.5	75.2	4.8	.60					2.6	7,985	14,370		1048
			2		17.0	78.0	5.0	.60						8,275	14,890		
			3		18.0	82.0		.65						8,710	15,670		
Same (composite of Nos. 8037–8039)	8114		1	4.40	16.15	77.16	2.29	.49	4.98	84.08	1.47	6.69	3.6	8,202	14,764		1048
			2		16.80	80.71	2.40	.51	4.70	87.95	1.54	2.90		8,579	15,442		
			3		17.31	82.69		.52	4.82	90.11	1.58	2.97		8,790	15,822		
One-half mile from; Prosperity mine, Sewell bed dip entry, 1,000 feet from shaft, 49⅛-inch cut).	8008	A	1	4.64	16.30	74.85	4.21	1.16					3.7				1049
			2		17.09	78.49	4.42	1.22									
			3		17.88	82.12		1.28									
Same (main north entry, 2,000 feet from shaft, 50½-inch cut).	8009	A	1	7.27	15.59	72.66	4.48	.54					6.7				1049
			2		16.81	78.36	4.83	.58									
			3		17.66	82.34		.61									
Same (main rise entry, 1,500 feet from shaft, 42⅛-inch cut).	8010	A	1	2.99	17.01	77.59	2.41	.98					2.5				1049
			2		17.53	79.99	2.48	1.01									
			3		17.98	82.02		1.04									
Same (composite of Nos. 8008–8010)	8109		1	5.07	16.84	74.37	3.72	.85	4.99	81.65	1.54	7.25	4.3	7,983	14,369		1049
			2		17.74	78.34	3.92	.90	4.67	86.01	1.62	2.88		8,409	15,136		
			3		18.46	81.54		.94	4.86	89.52	1.69	2.99		8,752	15,754		
Eccles, Eccles No. 1 mine, Sewell bed (main north entry, 431 feet from shaft, 54¾-inch cut).	8280	A	1	3.71	13.74	79.81	2.74	.59					2.8				1050
			2		14.27	82.88	2.85	.61									
			3		14.69	85.31		.63									
Same (room 1 on southeast entry, 210 feet from shaft, 53⅜-inch cut).	8279	A	1	4.55	14.26	77.51	3.68	.62					3.8				1050
			2		14.94	81.20	3.86	.65									
			3		15.54	84.46		.68									
Same (main south entry, 52¾-inch cut)	8281	A	1	4.77	13.73	77.33	4.17	.64					4.0				1050
			2		14.42	81.20	4.38	.67									
			3		15.08	84.92		.70									
Same (composite of Nos. 8279–8281)	8314		1	4.19	14.22	78.02	3.57	.61	5.05	82.93	1.44	6.40	3.5	8,080	14,544		1050
			2		14.84	81.43	3.73	.64	4.78	86.55	1.50	2.80		8,433	15,179		
			3		15.41	84.59		.66	4.96	89.90	1.56	2.92		8,759	15,766		
Glen White, Glen White mine, Beckley bed (250 feet from shaft 1, entry 1, 107-inch cut).	8901	A	1	3.2	15.0	78.1	3.7	.70					2.6				1050
			2		15.5	80.7	3.8	.70									
			3		16.0	84.0		.75									
Same (main air course, 400 feet east of shaft 2, 8 foot 10¼ inch cut).	8902	A	1	6.2	13.0	75.8	5.0	.90					5.6				1050
			2		14.0	80.7	5.3	.95									
			3		15.0	85.0		1.00									
Same (composite of Nos. 8901 and 8902)	8938	A	1	4.7	13.0	77.9	4.4	.83	4.71	82.31	1.49	6.26	4.1	7,965	14,340		1060
			2		13.5	81.9	4.6	.87	4.40	86.36	1.56	2.21		8,360	15,050		
			3		14.5	85.5		.91	4.61	90.58	1.64	2.26		8,765	15,780		
Graham, Graham mine, Sewell bed (left air course 5, 3,600 feet S. 25° W. of drift mouth, 53⅛-inch cut).	8086	A	1	3.67	17.01	76.36	2.96	.66					2.8				1051
			2		17.66	79.27	3.07	.69									
			3		18.22	81.78		.71									
Same (room 32 on left entry 2, 2,900 feet south of drift mouth, 48½-inch cut).	8087	A	1	3.57	16.55	76.44	3.44	.69					2.7				1051
			2		17.16	79.27	3.57	.72									
			3		17.79	82.21		.75									

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
RALEIGH COUNTY—continued.																	
Graham, Graham mine—Continued.																	
Same (room 2 on air course of Sidney entry, 200 feet N. 45° W. of drift mouth, 45⅛-inch cut).	8088	A	1	3.27	18.11	75.60	3.02	0.85					2.4				1051
			2		18.72	78.16	3.12	.88									
			3		19.32	80.68		.91									
Same (composite of Nos. 8086–8088)	8165		1	3.28	18.00	75.62	3.10	.79	4.97	83.79	1.46	5.89	2.6	8,143	14,657		1051
			2		18.61	78.18	3.21	.82	4.77	86.63	1.51	3.06		8,419	15,154		
			3		19.23	80.77		.85	4.93	89.51	1.56	3.15		8,699	15,658		
1 mile from; Tamroy mine, Sewell bed (main entry 1, 1,200 feet S. 83° E. of drift mouth, 58⅜-inch cut).	8129	A	1	3.00	16.70	78.17	2.13	.65					1.9				1052
			2		17.22	80.58	2.20	.67									
			3		17.61	82.39		.69									
Same (west entry 2, 500 feet S. 26° W. of opening, 53¾-inch cut).	8130	A	1	3.43	17.24	76.77	2.56	.57					2.4				1052
			2		17.85	79.50	2.65	.59									
			3		18.34	81.66		.61									
Same (main air course 3, 750 feet S. 8° E. of drift mouth, 52½-inch cut).	8131	A	1	2.81	17.30	77.49	2.40	.61					1.7				1052
			2		17.80	79.73	2.47	.63									
			3		18.25	81.75		.65									
Same (composite of Nos. 8129–8131)	8184		1	2.90	16.49	78.06	2.55	.55	4.98	84.92	1.60	5.40	2.0	8,291	14,924		1052
			2		16.98	80.39	2.63	.57	4.80	87.46	1.65	2.89		8,539	15,370		
			3		17.44	82.56		.59	4.93	89.82	1.69	2.97		8,770	15,786		
Lanark, 1 mile west of; Lanark No. 3 mine, Sewell bed (pillar, right entry 3, 1,700 feet northeast of drift mouth, 56¾-inch cut).	8357	A	1	3.13	16.93	77.07	2.87	.66					2.2				1053
			2		17.48	79.56	2.96	.68									
			3		18.01	81.99		.70									
Same (pillar, right entry 2, 1,500 feet east of drift mouth, 60½-inch cut).	8356	A	1	2.89	16.91	77.21	2.99	.70					1.9				1053
			2		17.41	79.51	3.08	.72									
			3		17.96	82.04		.74									
Same (composite of Nos. 8356 and 8357)	8422		1	3.15	16.71	77.12	3.02	.68	5.11	84.48	1.31	5.40	2.1	8,263	14,873		1053
			2		17.25	79.63	3.12	.70	4.91	87.23	1.35	2.69		8,532	15,358		
			3		17.81	82.19		.72	5.07	90.04	1.39	2.78		8,807	15,853		
Lanark No. 4 mine, Sewell bed (pillar, right entry 3, 1,500 feet southeast of drift mouth, 59¾-inch cut).	8305	A	1	3.01	17.07	76.91	3.01	.54					2.3				1053
			2		17.60	79.30	3.10	.56									
			3		18.16	81.84		.58									
Same (cross cut, main entry 2,500 feet west of drift mouth, 53½-inch cut).	8303	A	1	3.37	16.29	78.39	1.95	.47					2.6				1053
			2		16.86	81.12	2.02	.49									
			3		17.21	82.79		.50									

Same (room 18 off right entry 5, 2,400 feet from drift mouth, 55-inch cut).	8304	A	1	5.61	15.13	76.62	2.64	.49	......	......	......	......	4.8	......	......	......	1053
			2	......	16.03	81.17	2.80	.52	......	......	......	......	......	......	......		
			3	......	16.49	83.51	......	.53	......	......	......	......	......	......	......		
Same (composite of Nos. 8303–8305)............	8316	......	1	3.95	16.69	76.87	2.49	.52	5.18	83.50	1.43	6.93	3.2	8,220	14,796	......	1053
			2	......	17.38	80.03	2.59	.54	4.88	86.93	1.49	3.57	......	8,558	15,404		
			3	......	17.84	82.16	......	.55	5.01	89.24	1.53	3.67	......	8,786	15,815		
Oswald, Oswald mine, Sewell bed (right air course 7 off new main, 2,500 feet S. 60° E. of drift mouth, 3-foot cut).	8081	A	1	2.96	17.94	76.50	2.60	.72	......	......	......	......	2.1	......	......	......	1054
			2	......	18.49	78.83	2.68	.74	......	......	......	......	......	......	......		
			3	......	19.00	81.00	......	.76	......	......	......	......	......	......	......		
Same (room 8, left entry 7, 2,500 feet N. 80° E. of drift mouth, 4½-foot cut).	8082	A	1	3.31	18.30	74.32	4.07	.83	......	......	......	......	2.4	......	......	......	1054
			2	......	18.93	76.86	4.21	.86	......	......	......	......	......	......	......		
			3	......	19.76	80.24	......	.90	......	......	......	......	......	......	......		
Same (room 10 on left entry 4, 1,700 feet N. 30° E. of drift mouth, 3¾-foot cut).	8083	A	1	2.68	19.14	72.54	5.64	2.71	......	......	......	......	2.0	......	......	......	1054
			2	......	19.67	74.53	5.80	2.78	......	......	......	......	......	......	......		
			3	......	20.87	79.13	......	2.95	......	......	......	......	......	......	......		
Same (room 4 on left entry 9 off new main, 3,300 feet east of drift mouth, 53-inch cut).	8245	A	1	3.21	16.29	76.08	4.42	.91	......	......	......	......	2.4	......	......	......	1054
			2	......	16.83	78.60	4.57	.94	......	......	......	......	......	......	......		
			3	......	17.64	82.36	......	.99	......	......	......	......	......	......	......		
Same (room 12 on left entry 4, 47½-inch cut)....	8691	A	1	3.39	18.09	73.49	5.03	2.21	......	......	......	......	2.6	7,992	14,386	......	1054
			2	......	18.72	76.08	5.20	2.29	......	......	......	......	......	8,273	14,891		
			3	......	19.75	80.25	......	2.42	......	......	......	......	......	8,728	15,710		
Same (composite of Nos. 8081–8083 and 8245)...	8162	......	1	2.99	18.14	74.60	4.27	1.32	4.99	82.75	1.52	5.15	2.2	8,093	14,576	......	1054
			2	......	18.70	76.90	4.40	1.36	4.80	85.30	1.57	2.57	......	8,342	15,016		
			3	......	19.56	80.44	......	1.42	5.02	89.22	1.64	2.70	......	8,726	15,707		
Price Hill, 2 miles southwest of MacDonald; Price Hill mine, Sewell bed (main entry, 2,600 feet southwest of shaft, 48½-inch cut).	7931	A	1	3.83	17.88	73.75	4.54	1.32	......	......	......	......	3.1	8,018	14,432	......	1055
			2	......	18.59	76.69	4.72	1.37	......	......	......	......	......	8,337	15,007		
			3	......	19.51	80.49	......	1.44	......	......	......	......	......	8,750	15,750		
Same (room 8, right entry 8, 1,200 feet N. 45° W. of shaft, 43½-inch cut).	7932	A	1	3.33	17.97	76.57	2.13	.48	......	......	......	......	2.6	8,288	14,918	......	1055
			2	......	18.59	79.21	2.20	.50	......	......	......	......	......	8,573	15,431		
			3	......	19.01	80.99	......	.51	......	......	......	......	......	8,766	15,779		
Same (room 19, off left entry 2, 2,300 feet south of shaft, 53-inch cut).	8127	A	1	2.84	20.01	72.22	4.93	2.99	......	......	......	......	2.1	......	......	......	1055
			2	......	20.59	74.34	5.07	3.08	......	......	......	......	......	......	......		
			3	......	21.69	78.31	......	3.24	......	......	......	......	......	......	......		
Same (room 19, off left air course 2, 2,500 feet south of shaft, 44½-inch cut).	8689	A	1	4.2	18.0	74.3	3.5	1.40	......	......	......	......	3.4	8,085	14,550	......	1055
			2	......	18.5	77.9	3.6	1.45	......	......	......	......	......	8,440	15,190		
			3	......	19.5	80.5	......	1.50	......	......	......	......	......	8,755	15,760		
Same (left entry 4, 3,000 feet from shaft, 44½-inch cut).	8690	A	1	3.4	17.0	77.2	2.4	.65	......	......	......	......	2.6	8,260	14,870	......	1055
			2	......	17.5	80.0	2.5	.65	......	......	......	......	......	8,555	15,400		
			3	......	18.0	82.0	......	.70	......	......	......	......	......	8,775	15,800		
Same (composite of Nos. 7931, 7932, and 8127)..	8188	......	1	3.37	17.92	74.78	3.93	1.58	5.02	82.41	1.59	5.47	2.6	8,092	14,566	......	1055
			2	......	18.55	77.38	4.07	1.64	4.81	85.29	1.65	2.54	......	8,374	15,073		
			3	......	19.34	80.66	......	1.71	5.01	88.91	1.72	2.65	......	8,729	15,712		
Raleigh, Raleigh No. 6 mine, Beckley bed (west entry 1, 1,400 feet from drift mouth, 62-inch cut).	8264	A	1	4.1	16.0	75.5	4.4	.70	......	......	......	......	3.2	......	......	......	1055
			2	......	16.5	78.9	4.6	.70	......	......	......	......	......	......	......		
			3	......	17.0	83.0	......	.75	......	......	......	......	......	......	......		
Same (main south entry 1, 2,100 feet from drift mouth, 51½-inch cut).	8265	A	1	3.5	15.0	77.3	4.2	.75	......	......	......	......	2.7	......	......	......	1055
			2	......	15.5	80.2	4.3	.75	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	.80	......	......	......	......	......	......	......		
Same (left entry 4, 1,800 feet from drift mouth, 48½-inch cut).	8263	A	1	3.8	15.0	76.7	4.5	.70	......	......	......	......	2.9	......	......	......	1055
			2	......	15.5	79.8	4.7	.75	......	......	......	......	......	......	......		
			3	......	16.0	84.0	......	.80	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
RALEIGH COUNTY—continued.																	
Raleigh, Raleigh No. 6 mine—Continued.																	
Same (south entry 4, 59½-inch cut)	8266	A	1	3.7	15.0	75.5	5.8	0.95	......	......	......	......	2.9	......	......	......	1055
			2	......	15.5	78.5	6.0	1.00	......	......	......	......	......	......	......		
			3	......	16.5	83.5	......	1.05	......	......	......	......	......	......	......		
Same (composite of Nos. 8263–8266)	8309	......	1	3.6	15.5	76.1	4.75	.79	4.99	82.35	1.41	5.71	2.9	8,030	14,460	......	1055
			2	......	16.0	79.1	4.93	.82	4.76	85.45	1.46	2.58	......	8,335	15,000		
			3	......	16.5	83.5	......	.86	5.01	89.88	1.54	2.71	......	8,765	15,380		
Raleigh No. 1 mine, Beckley bed (right haulway 4, 55-inch cut).	8252	A	1	3.25	14.72	78.99	3.04	.57	......	......	......	......	2.4	......	......	......	1056
			2	......	15.21	81.65	3.14	.59	......	......	......	......	......	......	......		
			3	......	15.70	84.30	......	.61	......	......	......	......	......	......	......		
Same (room 1, on right entry 7, 58-inch cut)	8253	A	1	2.84	14.78	79.22	3.16	.63	......	......	......	......	2.0	......	......	......	1056
			2	......	15.21	81.54	3.25	.65	......	......	......	......	......	......	......		
			3	......	15.72	84.28	......	.67	......	......	......	......	......	......	......		
Same (composite of Nos. 8252 and 8253)	8306	......	1	2.93	14.51	79.42	3.14	.62	4.83	84.76	1.52	5.13	2.2	8,252	14,854	......	1056
			2	......	14.95	81.82	3.23	.64	4.64	87.32	1.57	2.60	......	8,501	15,302		
			3	......	15.45	84.55	......	.66	4.79	90.24	1.62	2.69	......	8,785	15,813		
Raleigh No. 2 mine, Beckley bed (pillar, right entry 2, 62-inch cut).	8254	A	1	3.7	14.0	79.3	3.0	.75	......	......	......	......	2.9	......	......	......	1056
			2	......	14.5	82.4	3.1	.75	......	......	......	......	......	......	......		
			3	......	15.0	85.0	......	.80	......	......	......	......	......	......	......		
Same (room 18, right entry 1, 47-inch cut)	8255	A	1	2.8	14.5	78.9	3.8	.70	......	......	......	......	1.9	......	......	......	1056
			2	......	15.0	81.1	3.9	.70	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.75	......	......	......	......	......	......	......		
Same (composite of Nos. 8254 and 8255)	8307	......	1	3.2	14.0	79.4	3.40	.73	4.69	83.36	1.49	6.33	2.4	8,190	14,740	......	1056
			2	......	14.5	82.0	3.51	.75	4.48	86.09	1.54	3.63	......	8,460	15,220		
			3	......	15.0	85.0	......	.78	4.64	89.22	1.60	3.76	......	8,765	15,780		
Raleigh No. 3 mine, Beckley bed (right entry 14, 5,000 feet from drift mouth, 46-inch cut).	8257	A	1	5.15	16.04	75.84	2.97	.59	......	......	......	......	4.3	......	......	......	1057
			2	......	16.91	79.96	3.13	.62	......	......	......	......	......	......	......		
			3	......	17.46	82.54	......	.64	......	......	......	......	......	......	......		
Same (left entry 7, 4,200 feet from drift mouth, 64-inch cut).	8258	A	1	4.22	14.60	77.04	4.14	.77	......	......	......	......	3.3	......	......	......	1057
			2	......	15.24	80.44	4.32	.80	......	......	......	......	......	......	......		
			3	......	15.93	84.07	......	.84	......	......	......	......	......	......	......		
Same (new right entry 6, 1,800 feet from drift mouth, 53-inch cut).	8256	A	1	3.06	14.81	78.35	3.78	.59	......	......	......	......	2.2	......	......	......	1057
			2	......	15.28	80.82	3.90	.61	......	......	......	......	......	......	......		
			3	......	15.90	84.10	......	.63	......	......	......	......	......	......	......		

Same (composite of Nos. 8256–8258)............	8308	......	1	4.2	14.5	77.6	3.65	.67	5.13	83.08	1.51	5.96	3.3	8,095	14,570	......	1057
			2	......	15.5	80.7	3.81	.70	4.87	86.74	1.57	2.31	......	8,450	15,210		
			3	......	16.0	84.0	......	.73	5.06	90.17	1.64	2.40	......	8,785	15,810		
One mile from; Blue Jay mine, Beckley bed (right entry 1, 500 feet from drift mouth, 52½-inch cut).	8274	A	1	2.80	14.73	77.42	5.05	.87	......	......	......	......	2.0	......	......	......	1058
			2	......	15.15	79.65	5.20	.90	......	......	......	......	......	......	......		
			3	......	15.98	84.02	......	.95	......	......	......	......	......	......	......		
Same (main entry, 600 feet from drift mouth, 57½-inch cut).	8272	A	1	4.07	14.24	76.99	4.70	.93	......	......	......	......	3.3	......	......	......	1058
			2	......	14.84	80.26	4.90	.97	......	......	......	......	......	......	......		
			3	......	15.60	84.40	......	1.02	......	......	......	......	......	......	......		
Same (main entry, 600 feet southeast from drift mouth, 57½-inch cut).	8273	A	1	3.96	14.21	77.18	4.65	1.05	......	......	......	......	3.2	......	......	......	1058
			2	......	14.80	80.36	4.84	1.09	......	......	......	......	......	......	......		
			3	......	15.55	84.45	......	1.15	......	......	......	......	......	......	......		
Same (composite of Nos. 8272–8274)............	8312	......	1	3.53	14.36	77.34	4.77	.92	4.89	82.67	1.39	5.36	2.8	8,027	14,449	......	1058
			2	......	14.89	80.17	4.94	.95	4.66	85.70	1.44	2.31	......	8,321	14,978		
			3	......	15.66	84.34	......	1.00	4.90	90.16	1.51	2.43	......	8,754	15,757		
Slab Fork, Slab Fork No. 1 mine, Beckley bed (main air course, 1,800 feet northwest of drift mouth, 65-inch cut).	8371	A	1	3.0	14.5	78.7	3.8	.60	......	......	......	......	2.2	......	......	......	1058
			2	......	15.0	81.1	3.9	.60	......	......	......	......	......	......	......		
			3	......	15.5	84.5	......	.60	......	......	......	......	......	......	......		
Same (room 4, 500 feet west of drift mouth, 58-inch cut).	8372	A	1	2.7	13.0	78.5	5.76	.55	4.93	82.74	1.35	4.67	1.9	8,025	14,450	......	1058
			2	......	13.5	80.6	5.92	.57	4.76	85.05	1.39	2.31	......	8,250	14,850		
			3	......	14.5	85.5	......	.61	5.06	90.40	1.48	2.45	......	8,770	15,790		
Same (composite of Nos. 8371 and 8372)........	8459	......	1	3.0	13.5	78.6	4.88	.57	4.75	83.40	1.27	5.13	2.1	8,130	14,630	......	1058
			2	......	13.5	81.5	5.03	.59	4.55	85.94	1.31	2.58	......	8,375	15,080		
			3	......	14.5	85.5	......	.62	4.79	90.49	1.38	2.72	......	8,820	15,880		
Slab Fork No. 2 mine, Beckley bed (right entry 1, 43½-inch cut).	8337	A	1	3.35	14.09	79.65	2.91	.54	......	......	......	......	2.8	......	......	......	1058
			2	......	14.58	82.41	3.01	.56	......	......	......	......	......	......	......		
			3	......	15.03	84.97	......	.58	......	......	......	......	......	......	......		
Same (left entry 2, 63½-inch cut)...............	8338	A	1	2.47	14.38	78.13	5.02	.60	......	......	......	......	1.7	......	......	......	1058
			2	......	14.74	80.11	5.15	.62	......	......	......	......	......	......	......		
			3	......	15.54	84.46	......	.65	......	......	......	......	......	......	......		
Same (main entry, 1,400 feet from drift mouth, 49½-inch cut).	8339	A	1	2.48	14.46	80.30	2.76	.51	......	......	......	......	1.8	......	......	......	1058
			2	......	14.83	82.34	2.83	.52	......	......	......	......	......	......	......		
			3	......	15.26	84.74	......	.54	......	......	......	......	......	......	......		
Same (composite of Nos. 8337–8339)............	8460	......	1	2.81	13.77	79.88	3.54	.54	4.84	85.00	1.30	4.78	2.1	8,203	14,765	......	1058
			2	......	14.17	82.19	3.64	.56	4.66	87.46	1.34	2.34	......	8,440	15,192		
			3	......	14.71	85.29	......	.58	4.84	90.77	1.39	2.42	......	8,759	15,766		
Slab Fork No. 3 mine, Beckley bed (main entry, 600 feet east of drift mouth, 51-inch cut).	8373	A	1	4.3	14.0	77.9	3.8	.65	......	......	......	......	2.1	7,800	14,040	......	1058
			2	......	14.5	81.5	4.0	.70	......	......	......	......	......	8,150	14,670		
			3	......	15.0	85.0	......	.70	......	......	......	......	......	8,485	15,270		
Sophia, Wood mine, Beckley bed, main entry 96 feet from drift mouth, 58½-inch cut.	8906	A	1	3.3	14.0	77.6	5.14	.63	4.60	82.94	1.41	5.28	2.7	8,050	14,490	......	1060
			2	......	14.5	80.2	5.32	.65	4.37	85.77	1.46	2.43	......	8,325	14,990		
			3	......	15.5	84.5	......	.69	4.62	90.59	1.54	2.56	......	8,795	15,830		
1 mile from; Compressor mine, Beckley bed, main entry 200 feet from drift mouth, 62½-inch cut.	8907	A	1	3.0	13.5	79.0	4.47	.57	4.57	83.81	1.55	5.03	2.4	8,095	14,570	......	1060
			2	......	14.0	81.4	4.61	.59	4.37	86.39	1.60	2.44	......	8,345	15,020		
			3	......	14.5	85.5	......	.62	4.58	90.56	1.68	2.56	......	8,750	15,750		
Stanaford, Piney No. 1 mine, No. 6 drift, Beckley bed (2,700 feet southwest of drift mouth, left entry 2, 77¾-inch section, 65-inch cut).	5502	A	1	2.19	17.09	76.99	3.73	.64	......	......	......	......	1.5	8,254	14,857	362	1061
			2	......	17.47	78.72	3.81	.65	......	......	......	......	......	8,439	15,190	385	
			3	......	18.16	81.84	......	.68	......	......	......	......	......	8,773	15,791	88	
Same (2,700 feet west of drift mouth, right entry 2, 64¾-inch section, 53¾-inch cut).	5503	A	1	2.28	16.81	77.37	3.54	.79	......	......	......	......	1.7	8,241	14,834	362	1061
			2	......	17.20	79.18	3.62	.81	......	......	......	......	......	8,433	15,179		
			3	......	17.85	82.15	......	.84	......	......	......	......	......	8,750	15,750		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
RALEIGH COUNTY—continued.																	
Stanaford, Piney No. 1 mine—Continued.																	
Same (run of mine, first car)	5719	C	1	2.14	16.83	71.91	9.12	1.20	4.74	79.60	1.41	3.93	1.4	7,791	14,024	362	
			2		17.20	73.48	9.32	1.23	4.57	81.34	1.44	2.10		7,961	14,330		
			3		18.97	81.03		1.36	5.04	89.70	1.59	2.31		8,779	15,802		
Same (run of mine, second car)	5720	C	1	2.56	16.08	72.87	8.49	.85	4.75	79.85	1.34	4.72	1.9	7,802	14,044	362	
			2		16.50	74.79	8.71	.87	4.55	81.94	1.38	2.55		8,007	14,413		
			3		18.07	81.93		.95	4.98	89.76	1.51	2.80		8,771	15,788		
Stanaford No. 1 mine, Beckley bed (main entry, 3,900 feet from drift mouth, 83-inch cut).	8267	A	1	3.7	16.0	74.7	5.6	1.35					2.9				1062
			2		16.5	77.7	5.8	1.40									
			3		17.5	82.5		1.50									
Same (left entry 2, 46-inch cut)	8268	A	1	3.0	17.5	72.1	7.4	.85					2.2				1062
			2		18.0	74.4	7.6	.90									
			3		19.5	80.5		1.00									
Same (main entry, S. 74° W., 3,900 feet from drift mouth, 83-inch cut).	8269	A	1	3.6	16.5	74.9	5.0	.95					2.8				1062
			2		17.0	77.8	5.2	.95									
			3		18.0	82.0		1.00									
Same (composite of Nos. 8267-8269)	8311		1	3.3	16.0	74.7	5.96	1.08	4.91	81.04	1.45	5.56	2.6	7,950	14,310		1062
			2		16.5	77.3	6.16	1.12	4.69	83.80	1.50	2.73		8,220	14,800		
			3		17.5	82.5		1.19	5.00	89.30	1.60	2.91		8,760	15,770		
Stanaford No. 2 mine, Beckley bed (main entry, 1,000 feet southwest of drift mouth, 3½-foot cut).	8270	A	1	3.5	17.0	75.3	4.16	.66	5.04	82.62	1.47	6.05	2.7	8,090	14,560		1062
			2		17.5	78.2	4.31	.68	4.82	85.60	1.52	3.07		8,382	15,090		
			3		18.5	81.5		.71	5.04	89.45	1.59	3.21		8,759	15,770		
Same (main entry, 2,900 feet S. 74° 30′ W. of drift mouth, 50½-inch cut).	8271	A	1	2.8	18.0	73.6	5.6	1.10					1.9	7,990	14,380		1062
			2		18.5	75.8	5.7	1.10						8,215	14,790		
			3		19.5	80.5		1.20						8,715	15,680		
1½ miles from; Stanaford (Piney) No. 3 mine, Sewell bed (left entry 6, 2,070 feet N. 23° W. of drift mouth, 51½-inch cut).	8275	A	1	3.87	15.67	75.28	5.18	.67					2.5				1063
			2		16.30	78.31	5.39	.70									
			3		17.23	82.77		.74									
Same (right entry 7, 2,160 feet N. 23° W. of drift mouth, 50¾-inch cut).	8276	A	1	3.08	15.11	78.44	3.37	.61					2.2				1063
			2		15.59	80.93	3.48	.63									
			3		16.15	83.85		.65									
Same (main entry, 3,200 feet N. 23° W. of drift mouth, 41½-inch cut).	8277	A	1	3.68	15.10	78.93	2.29	.53	5.15	84.60	1.54	5.89	2.9	8,232	14,818		1063
			2		15.68	81.94	2.38	.55	4.92	87.83	1.60	2.72		8,546	15,383		
			3		16.06	83.94		.56	5.04	89.97	1.64	2.79		8,755	15,759		

Same (composite of Nos. 8275–8277)............	8313	......	1	3.20	14.42	78.68	3.70	.61	5.02	83.68	1.42	5.57	2.5	8,129	14,632	......	1063
			2	......	14.90	81.28	3.82	.63	4.81	86.45	1.47	2.82	......	8,398	15,116		
			3	......	15.49	84.51	......	.66	5.00	89.88	1.53	2.93	......	8,731	15,716		
Stanaford (Piney) No. 4 mine, Beckley bed (main entry, 1,600 feet S. 74° W. of drift mouth, 49-inch cut).	8278	A	1	4.71	14.93	75.48	4.88	.80	5.10	80.57	1.45	7.20	3.9	7,865	14,157	......	1063
			2	......	15.67	79.21	5.12	.84	4.81	84.55	1.52	3.16	......	8,254	14,857		
			3	......	16.52	83.48	......	.89	5.07	89.12	1.60	3.32	......	8,700	15,660		
Stonewall, Stonewall No. 2 mine, Fire Creek bed (left entry 1, 500 feet north of drift mouth, 34-inch cut).	8345	A	1	3.02	16.06	78.75	2.17	.80	5.02	85.02	1.40	5.59	2.2	8,334	15,001	......	1064
			2	......	16.56	81.20	2.24	.82	4.83	87.66	1.44	3.01	......	8,593	15,467		
			3	......	16.94	83.06	......	.84	4.94	89.67	1.47	3.08	......	8,790	15,822		
1½ miles west of; Stonewall No. 3 mine, Fire Creek bed (room 3, entry 34, 2,700 feet west of drift mouth, 56½-inch cut).	8343	A	1	2.76	18.77	75.97	2.50	.84	......	......	......	......	2.0	......	......	......	1064
			2	......	19.30	78.13	2.57	.86	......	......	......	......	......	......	......		
			3	......	19.81	80.19	......	.88	......	......	......	......	......	......	......		
Same (room 9, entry 32, 2,300 feet southwest of drift mouth, 56½-inch cut).	8344	A	1	3.50	18.31	75.51	2.68	.64	......	......	......	......	2.7	......	......	......	1064
			2	......	18.97	78.25	2.78	.66	......	......	......	......	......	......	......		
			3	......	19.51	80.49	......	.68	......	......	......	......	......	......	......		
Same (entry 24, 1,700 feet west of drift mouth, 60½-inch cut).	8342	A	1	3.13	16.74	77.69	2.44	.61	......	......	......	......	2.3	......	......	......	1064
			2	......	17.28	80.20	2.52	.63	......	......	......	......	......	......	......		
			3	......	17.73	82.27	......	.65	......	......	......	......	......	......	......		
Same (composite of Nos. 8342–8344)............	8426	......	1	3.04	17.24	77.19	2.53	.72	5.01	84.77	1.51	5.46	2.3	8,252	14,854	......	1064
			2	......	17.78	79.61	2.61	.74	4.82	87.43	1.56	2.84	......	8,511	15,320		
			3	......	18.26	81.74	......	.76	4.95	89.77	1.60	2.92	......	8,739	15,730		
Same (pillar on entry 29½, 2,000 feet west of drift mouth, 57½-inch cut).	8341	A	1	3.05	17.17	77.12	2.66	.69	5.04	83.61	1.57	6.43	2.2	8,267	14,881	......	1064
			2	......	17.71	79.55	2.74	.71	4.85	86.24	1.62	3.84	......	8,527	15,349		
			3	......	18.21	81.79	......	.73	4.99	88.67	1.67	3.94	......	8,767	15,781		
Sullivan, Sullivan mine, Beckley bed (main south entry, south mine, 320 feet from drift mouth, 49¼-inch cut).	8282	A	1	3.38	13.65	77.19	5.78	1.08	......	......	......	......	2.6	......	......	......	1065
			2	......	14.13	79.89	5.98	1.12	......	......	......	......	......	......	......		
			3	......	15.03	84.97	......	1.19	......	......	......	......	......	......	......		
Same (main north mine entry 2, 200 feet from drift mouth, 58½-inch cut).	8283	A	1	3.66	14.36	77.37	4.61	.82	......	......	......	......	2.8	......	......	......	1065
			2	......	14.91	80.30	4.79	.85	......	......	......	......	......	......	......		
			3	......	15.66	84.34	......	.89	......	......	......	......	......	......	......		
Same (composite of Nos. 8282 and 8283)........	8409	......	1	3.55	14.02	77.15	5.28	.99	4.91	82.33	1.39	5.10	2.7	7,939	14,290	......	1065
			2	......	14.54	79.99	5.47	1.03	4.69	85.36	1.44	2.01	......	8,231	14,816		
			3	......	15.38	84.62	......	1.09	4.96	90.30	1.52	2.13	......	8,708	15,674		
Terry, Terry mine, Fire Creek bed (room 11 on right entry 2, 2,200 feet north of drift mouth, 59¼-inch cut).	8353	A	1	2.65	16.32	75.26	5.77	.90	......	......	......	......	1.8	......	......	......	1066
			2	......	16.76	77.31	5.93	.92	......	......	......	......	......	......	......		
			3	......	17.82	82.18	......	.98	......	......	......	......	......	......	......		
Same (main entry 2, 2,200 feet west of drift mouth, 21½-inch cut).	8354	A	1	3.03	16.01	73.85	7.11	.49	......	......	......	......	2.1	......	......	......	1066
			2	......	16.51	76.16	7.33	.51	......	......	......	......	......	......	......		
			3	......	17.82	82.18	......	.55	......	......	......	......	......	......	......		
Same (left entry 1 in room 3, 1,000 feet south of drift mouth, 37-inch cut).	8355	A	1	2.53	15.93	78.76	2.78	.60	......	......	......	......	1.6	......	......	......	1066
			2	......	16.34	80.81	2.85	.62	......	......	......	......	......	......	......		
			3	......	16.82	83.18	......	.64	......	......	......	......	......	......	......		
Same (composite of Nos. 8353–8355)............	8423	......	1	2.75	15.99	76.01	5.25	.64	4.84	82.56	1.43	5.28	1.8	8,060	14,508	......	1066
			2	......	16.44	78.16	5.40	.66	4.66	84.90	1.47	2.91	......	8,288	14,918		
			3	......	17.38	82.62	......	.70	4.93	89.75	1.55	3.07	......	8,761	15,770		
West Raleigh, Raleigh No. 2 mine, Beckley bed (1,800 feet northeast of drift mouth, pillar between right entries 5 and 5½, 55½-inch section, 52½-inch cut).	5547	A	1	2.28	15.84	78.80	3.08	.96	......	......	......	......	1.8	8,300	14,940	362	1066
			2	......	16.21	80.64	3.15	.98	......	......	......	......	......	8,494	15,289	385	
			3	......	16.74	83.26	......	1.01	......	......	......	......	......	8,770	15,786	403	
Raleigh No. 1 mine (3,150 feet northwest of drift mouth, right entry 7, 58-inch section, 56½-inch cut), Beckley bed.	5548	A	1	2.32	16.18	78.42	3.08	.65	......	......	......	......	1.8	8,316	14,969	362	1066
			2	......	16.56	80.29	3.15	.67	......	......	......	......	......	8,514	15,325		
			3	......	17.10	82.90	......	.69	......	......	......	......	......	8,791	15,824		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
RALEIGH COUNTY—continued.																	
West Raleigh, Raleigh No. 1 mine—Continued.																	
Same (run of mine, first car)	5718	C	1	2.15	15.06	75.46	7.33	0.90	4.72	82.27	1.55	3.23	1.5	7,995	14,391	362	......
			2	......	15.39	77.12	7.49	.92	4.58	84.09	1.58	1.34	......	8,171	14,708		
			3	......	16.64	83.36	......	.99	4.95	90.90	1.71	1.45	......	8,833	15,899		
Same (run of mine, second car)	5740	C	1	4.26	16.25	73.45	6.04	.78	4.83	81.37	1.49	5.49	3.6	7,933	14,279	362	......
			2	......	16.97	76.72	6.31	.81	4.49	84.99	1.56	1.84	......	8,286	14,915		
			3	......	18.11	81.89	......	.86	4.79	90.72	1.66	1.97	......	8,844	15,919		
RANDOLPH COUNTY.																	
Coalton, Coalton mine, Roaring Creek (Lower Kittanning) bed (right heading 5, 6½-foot cut).	1144	A	1	2.82	29.62	57.11	10.45	1.00	......	......	1.27	......	1.8	7,486	13,475	261	1067
			2	......	30.48	58.77	10.75	1.03	......	......	1.31	......	......	7,703	13,865	*48*	
			3	......	34.15	65.85	......	1.15	......	......	1.46	......	......	8,631	15,536		
Same (left heading 6, 77-inch cut)	1147	A	1	3.08	28.77	57.88	10.27	1.13	......	......	......	......	2.3	......	......	261	1067
			2	......	29.68	59.72	10.60	1.17	......	......	......	......	......	......	......	*48*	
			3	......	33.20	66.80	......	1.31	......	......	......	......	......	......	......		
Same (lump, over 1¼-inch screen)	1297	C	1	1.45	28.97	59.48	10.10	.98	4.83	75.75	1.47	6.87	.8	7,621	13,718	261	......
			2	......	29.40	60.35	10.25	.99	4.74	76.86	1.49	5.67	......	7,733	13,919	*48*	
			3	......	32.76	67.24	......	1.11	5.28	85.64	1.66	6.31	......	8,616	15,509		
			4	......	......	......	......	......	5.34	86.60	1.68	6.38	......	8,686	15,635		
TUCKER COUNTY.																	
Thomas, Thomas No. 23 mine, Upper Freeport bed (last crosscut near face of Pendleton heading, 2,000 feet from drift mouth, 35⅜-inch cut).	393	A	1	2.39	22.39	70.04	5.18	.67	......	......	......	......	......	8,087	14,557	......	1068
			2	......	22.94	71.75	5.31	.68	......	......	......	......	......	8,285	14,913		
			3	......	24.23	75.77	......	.72	......	......	......	......	......	8,749	15,749		
Same (Thomas air course, near face of Huber, 8,600 feet northeast from drift mouth, 56⅛-inch cut).	394	A	1	3.14	19.90	69.37	7.59	1.05	......	......	......	......	......	7,761	13,961	......	1068
			2	......	20.54	71.62	7.84	1.07	......	......	......	......	......	8,008	14,414		
			3	......	22.29	77.71	......	1.16	......	......	......	......	......	8,689	15,640		
Same (Layman heading, 7,800 feet northeast of drift mouth, 36½-inch cut).	395	A	1	1.69	20.85	71.16	6.30	.60	......	......	......	......	......	8,068	14,522	......	1068
			2	......	21.21	72.38	6.41	.62	......	......	......	......	......	8,207	14,772		
			3	......	22.66	77.34	......	.66	......	......	......	......	......	8,768	15,783		
Same (dip 5, 6,800 feet northwest of drift mouth, 63½-inch cut).	396	A	1	2.20	22.08	66.23	9.49	1.36	......	......	......	......	......	7,713	13,883	......	1068
			2	......	22.58	67.72	9.70	1.37	......	......	......	......	......	7,886	14,195		
			3	......	25.00	75.00	......	1.57	......	......	......	......	......	8,733	15,719		

Same (butt entry 8, 56$\frac{7}{16}$-inch cut)	397	A	1	2.15	21.94	66.40	9.51	1.26	......	......	......	......	......	7,697	13,854	......	1068
			2	......	22.42	67.86	9.72	1.27	......	......	......	......	......	7,866	14,158		
			3	......	24.83	75.17	......	1.41	......	......	......	......	......	8,712	15,682		
Same (composite of Nos. 393–397)	10450	A	1	1.12	20.74	70.38	7.76	1.05	4.52	81.22	1.59	3.86	......	......	......	......	1068
			2	......	20.97	71.18	7.85	1.06	4.45	82.14	1.61	2.89	......	......	......		
			3	......	22.76	77.24	......	1.15	4.83	89.14	1.75	3.13	......	......	......		
Thomas No. 34 mine, Lower Kittanning or Davis bed (Birge heading, 55⅝-inch cut).	474	A	1	3.90	20.22	70.06	5.82	.71	......	......	......	......	......	7,884	14,192	......	1069
			2	......	21.04	72.90	6.06	.74	......	......	......	......	......	8,204	14,768		
			3	......	22.40	77.60	......	.79	......	......	......	......	......	8,734	15,721		
Same (room 6, off Roberts heading, 67⅞-inch cut).	475	A	1	3.53	19.24	70.17	7.06	.76	......	......	......	......	......	7,781	14,006	......	1069
			2	......	19.94	72.74	7.32	.79	......	......	......	......	......	8,066	14,519		
			3	......	21.51	78.49	......	.85	......	......	......	......	......	8,703	15,666		
Same (right entry 2, off Foreman heading, 60-inch cut).	476	A	1	2.74	21.48	67.95	7.83	1.20	......	......	......	......	......	7,761	13,969	......	1069
			2	......	22.08	69.87	8.05	1.23	......	......	......	......	......	7,979	14,363		
			3	......	24.01	75.99	......	1.34	......	......	......	......	......	8,678	15,620		
Same (composite of Nos. 474–476)	10456	A	1	1.22	20.42	70.79	7.57	.96	4.71	81.47	1.46	3.83	......	......	......	......	1069
			2	......	20.67	71.67	7.66	.97	4.62	82.48	1.48	2.79	......	......	......		
			3	......	22.39	77.61	......	1.05	5.00	89.33	1.60	3.02	......	......	......		
1¼ miles southwest of; Coketon No. 26 mine, Upper Freeport bed (room 3, off east heading, 65¼-inch cut).	477	A	1	3.46	21.92	67.46	7.16	.61	......	......	......	......	......	7,702	13,872	......	1069
			2	......	22.71	69.87	7.42	.63	......	......	......	......	......	7,983	14,369		
			3	......	24.53	75.47	......	.68	......	......	......	......	......	8,623	15,521		
Same (left heading 3, 64½-inch cut)	478	A	1	4.14	22.76	66.13	6.97	.57	......	......	......	......	......	7,718	13,893	......	1069
			2	......	23.74	68.99	7.27	.59	......	......	......	......	......	8,052	14,493		
			3	......	25.60	74.40	......	.64	......	......	......	......	......	8,683	15,629		
Same (right heading 3, 40-inch cut)	479	A	1	3.76	23.50	66.01	6.73	.95	......	......	......	......	......	7,787	14,016	......	1069
			2	......	24.42	68.59	6.99	.99	......	......	......	......	......	8,091	14,564		
			3	......	26.26	73.74	......	1.06	......	......	......	......	......	8,699	15,658		
Same (composite of Nos. 477–479)	10430	A	1	1.75	22.01	69.22	7.02	.70	4.86	81.09	1.65	4.68	......	......	......	......	1069
			2	......	22.40	70.46	7.14	.71	4.75	82.53	1.68	3.19	......	......	......		
			3	......	24.12	75.88	......	.76	5.12	88.88	1.81	3.43	......	......	......		
Thomas, 1½ miles southwest of, Coketon No. 36 or Old No. 2 mine, Lower Kittanning bed (straight bull-wheel heading, 1¾ miles from drift mouth, upper bench, 43¼-inch cut).	398	A	1	9.55	18.96	64.61	6.88	.97	......	......	......	......	......	7,318	13,173	......	1070
			2	......	20.96	71.43	7.61	1.07	......	......	......	......	......	8,091	14,564		
			3	......	22.69	77.31	......	1.16	......	......	......	......	......	8,756	15,760		
Same (lower bench, 18½-inch cut)	399	A	1	4.54	19.93	67.11	8.42	1.85	......	......	......	......	......	7,579	13,643	......	1070
			2	......	20.88	70.30	8.82	1.87	......	......	......	......	......	7,940	14,292		
			3	......	22.89	77.11	......	2.05	......	......	......	......	......	8,708	15,674		
Same (Arthur heading, 2 miles from drift mouth, 71½-inch cut).	400	A	1	4.43	20.69	65.96	8.92	.74	......	......	......	......	......	7,598	13,676	......	1070
			2	......	21.65	69.02	9.33	.79	......	......	......	......	......	7,950	14,310		
			3	......	23.88	76.12	......	.87	......	......	......	......	......	8,768	15,782		
Same (Ryan heading, 2 miles from drift mouth, 69-inch cut).	401	A	1	3.47	19.99	68.40	8.14	1.07	......	......	......	......	......	7,725	13,905	......	1070
			2	......	20.71	70.86	8.43	1.11	......	......	......	......	......	8,003	14,405		
			3	......	22.62	77.38	......	1.21	......	......	......	......	......	8,739	15,731		
Same (southeast heading, pillar in shaft working of No. 34, 900 feet from Arthur heading, 2 miles from drift mouth, 72¾-inch cut).	402	A	1	2.48	21.11	65.91	10.50	.77	......	......	......	......	......	7,586	13,655	......	1070
			2	......	21.65	67.58	10.77	.79	......	......	......	......	......	7,779	14,002		
			3	......	24.26	75.74	......	.88	......	......	......	......	......	8,718	15,692		
Same (composite of Nos. 398–402)	10432	A	1	1.20	19.41	70.28	9.11	1.04	4.87	80.13	1.30	3.55	......	......	......	......	1070
			2	......	19.64	71.14	9.22	1.05	4.81	81.10	1.32	2.50	......	......	......		
			3	......	21.64	78.36	......	1.16	5.30	89.34	1.45	2.75	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WEST VIRGINIA—Continued.																	
TUCKER COUNTY—continued.																	
Thomas—Continued.																	
1½ miles southwest of; Coketon No. 37 mine, Lower Kittanning or Davis bed (left heading 1 off Pratt entry, 62¾-inch cut).	481	A	1	2.21	24.27	65.51	8.01	1.07	......	......	......	......	......	7,785	14,013	......	1071
			2	......	24.82	66.99	8.19	1.09	......	......	......	......	......	7,961	14,330		
			3	......	27.03	72.97	......	1.19	......	......	......	......	......	8,671	15,608		
Same (north heading 4, 46¾-inch cut)	480	A	1	3.44	25.59	64.90	6.07	1.04	......	......	......	......	......	7,872	14,170	......	1071
			2	......	26.50	67.21	6.29	1.08	......	......	......	......	......	8,153	14,675		
			3	......	28.78	71.72	......	1.15	......	......	......	......	......	8,700	15,660		
Same (room 2 off Clark heading 70¼-inch cut)	482	A	1	3.42	20.38	68.81	7.39	.67	......	......	......	......	......	7,735	13,923	......	1071
			2	......	21.10	71.25	7.65	.69	......	......	......	......	......	8,009	14,416		
			3	......	22.85	77.15	......	.75	......	......	......	......	......	8,672	15,610		
Same (composite of Nos. 480–482)	10449	A	1	1.18	22.48	68.36	7.98	.98	4.71	80.09	1.50	4.74	......	......	......	......	1071
			2	......	22.75	69.18	8.07	.99	4.63	81.04	1.52	3.75	......	......	......		
			3	......	24.75	75.25	......	1.08	5.04	88.16	1.65	4.07	......	......	......		
1½ miles southwest of; Thomas No. 24 mine, Upper Freeport bed (crosscut between right heading 1 and air course, 1,100 feet southwest of drift mouth, 65⅝-inch cut).	407	A	1	2.45	22.39	68.11	7.05	.69	......	......	......	......	......	7,838	14,109	......	1072
			2	......	22.95	69.82	7.23	.71	......	......	......	......	......	8,035	14,463		
			3	......	24.74	75.26	......	.77	......	......	......	......	......	8,661	15,590		
Same (main heading, 850 feet southwest of drift mouth, 65¾-inch cut).	409	A	1	2.86	23.50	65.43	8.21	.60	......	......	......	......	......	7,732	13,918	......	1072
			2	......	24.19	67.36	8.45	.61	......	......	......	......	......	7,960	14,328		
			3	......	26.42	73.58	......	.67	......	......	......	......	......	8,694	15,650		
Same (room 7 off left entry 1,800 feet southeast of drift mouth, 42⅝-inch cut).	408	A	1	2.66	24.24	67.56	5.54	.58	......	......	......	......	......	7,982	14,367	......	1072
			2	......	24.90	69.41	5.69	.60	......	......	......	......	......	8,200	14,760		
			3	......	26.40	73.60	......	.64	......	......	......	......	......	8,695	15,651		
Same (composite of Nos. 407–409)	10433	A	1	1.13	23.09	68.43	7.35	1.32	4.97	81.68	1.52	3.16	......	......	......	......	1072
			2	......	23.35	69.22	7.43	1.34	4.90	82.61	1.54	2.18	......	......	......		
			3	......	25.23	74.77	......	1.45	5.29	89.24	1.66	2.36	......	......	......		
Thomas No. 25 mine, Upper Freeport bed (Stuart heading, 44½-inch cut).	403	A	1	1.83	23.75	66.81	7.61	.52	......	......	......	......	......	7,862	14,151	......	1073
			2	......	24.19	68.06	7.75	.53	......	......	......	......	......	8,008	14,415		
			3	......	26.22	73.78	......	.57	......	......	......	......	......	8,681	15,626		
Same (room 13 off Weaver heading, 66⅜-inch cut).	404	A	1	1.67	21.99	66.96	9.38	.70	......	......	......	......	......	7,728	13,911	......	1073
			2	......	22.36	68.10	9.54	.72	......	......	......	......	......	7,859	14,147		
			3	......	24.72	75.28	......	.80	......	......	......	......	......	8,683	15,630		
Same (room 1 off Roundhouse heading, 70⅜-inch cut).	405	A	1	2.31	21.64	68.82	7.41	.79	......	......	......	......	......	7,882	14,187	......	1073
			2	......	22.11	70.32	7.57	.81	......	......	......	......	......	8,053	14,496		

			3	......	23.92	76.08	......	.88	......	......	......	......	......	8,713	15,683		
Same (room 5 off left entry 7, 61-inch cut)......	406	A	1	2.21	21.61	68.02	8.16	1.42	......	......	......	......	......	7,803	14,046	......	1073
			2	......	22.10	69.56	8.34	1.43	......	......	......	......	......	7,979	14,363		
			3	......	24.11	75.89	......	1.56	......	......	......	......	......	8,706	15,670		
Same (composite of Nos. 403–406)............	10434	A	1	.99	21.85	68.96	8.20	.86	4.73	80.33	1.55	4.33	......	......	......	......	1073
			2	......	22.07	69.65	8.28	.87	4.67	81.13	1.57	3.48	......	......	......		
			3	......	24.06	75.94	......	.95	5.09	88.46	1.71	3.79	......	......	......		
UPSHUR COUNTY.																	
Adrian, Florence mine, Upper Freeport bed (room 1 on main entry, 500 feet southeast of drift mouth, 61-inch cut).	8987	A	1	2.5	31.5	58.2	7.8	1.60	......	......	......	......	1.0	......	......	......	1073
			2	......	32.5	59.5	8.0	1.65	......	......	......	......	......	......	......		
			3	......	35.0	65.0	......	1.75	......	......	......	......	......	......	......		
Same (room 19 on main entry 800 feet southeast of drift mouth, 54½-inch cut).	8988	A	1	2.7	33.5	55.3	8.5	1.65	......	......	......	......	1.2	......	......	......	1073
			2	......	34.5	56.8	8.7	1.70	......	......	......	......	......	......	......		
			3	......	37.5	62.5	......	1.85	......	......	......	......	......	......	......		
Same (butt entry 1 off left flat entry 1, 900 feet southwest of drift mouth, 58-inch cut).	8986	A	1	2.1	33.5	54.8	9.6	1.45	......	......	......	......	.8	......	......	......	1073
			2	......	34.5	55.7	9.8	1.50	......	......	......	......	......	......	......		
			3	......	38.0	62.0	......	1.65	......	......	......	......	......	......	......		
Same (composite of Nos. 8986–8988)............	9033	......	1	2.5	32.5	56.3	8.71	1.65	5.07	74.63	1.39	8.55	1.0	7,550	13,590	......	1073
			2	......	33.5	57.6	8.93	1.69	4.91	76.53	1.43	6.51	......	7,740	13,930		
			3	......	37.0	63.0	......	1.86	5.39	84.03	1.57	7.15	......	8,500	15,300		
WEBSTER COUNTY.																	
Cowen, 2 miles northwest of; stock pile at Hoover's country bank, Eagle (?) bed.	1237	B	1	2.28	34.21	56.61	6.90	3.14	......	......	......	......	1.3	......	......	48	1074
			2	......	35.01	57.93	7.06	3.21	......	......	......	......	......	......	......		
			3	......	37.67	62.33	......	3.45	......	......	......	......	......	......	......		
WYOMING.																	
BIGHORN COUNTY.[a]																	
Cody, 3 miles northeast of; Cody mine, sec. 23, T. 53 N., R. 101 W., 175 feet from opening, 4½-foot cut.	5766	B	1	17.29	31.33	45.89	5.49	.35	5.64	59.15	.85	28.52	5.7	5,586	10,055	341	1075
			2	......	37.88	55.48	6.64	.42	4.50	71.51	1.03	15.90	......	6,754	12,157		
			3	......	40.57	59.43	......	.45	4.82	76.59	1.10	17.04	......	7,234	13,021		
15 miles northwest of; NE. ¼ SE. ¼ sec. 25, T. 55 N., R. 102 W., Allison mine, 4½-foot bed.	5763	B	1	13.77	35.03	39.31	11.89	.64	5.42	52.84	1.00	28.21	4.8	5,148	9,266	341	1075
			2	......	40.62	45.59	13.79	.74	4.51	61.28	1.16	18.52	......	5,970	10,746		
			3	......	47.12	52.88	......	.86	5.23	71.08	1.35	21.48	......	6,925	12,465		
Kirby, near; SW ¼ sec. 22, T. 44 N., R. 95 W., Price and Jones mine, 150 feet from opening, 6-foot cut.	5788	B	1	16.11	32.96	48.09	2.84	.50	5.97	62.50	1.04	27.15	5.4	6,228	11,211	341	1076
			2	......	39.29	57.32	3.39	.60	4.98	74.50	1.24	15.29	......	7,424	13,363		
			3	......	40.67	59.33	......	.62	5.15	77.11	1.28	15.84	......	7,685	13,833		
2 miles southwest of; S. ½ sec. 11, T. 44 N., R. 95 W., No. 1 pit, Gebo mine, 133-inch bed and cut.	5787	B	1	17.04	35.53	45.10	2.33	.37	5.96	62.22	1.11	28.01	5.3	6,106	10,991	341	1076
			2	......	42.83	54.36	2.81	.45	4.91	75.00	1.34	15.49	......	7,360	13,248		
			3	......	44.07	55.93	......	.46	5.05	77.17	1.38	15.94	......	7,573	13,631		
2 miles southwest of; sec. 18, T. 44 N., R. 94 W.; Crosby mine, Eagle sandstone, main entry, 600 feet in mine, 7½-foot cut.	6707	B	1	1.94	31.03	38.45	28.58	2.57	......	......	......	......	......	......	......	381	1076
			2	......	31.64	39.21	29.15	2.62	......	......	......	......	......	......	......		
			3	......	44.66	55.34	......	3.70	......	......	......	......	......	......	......		
11 miles southwest of; sec. 33, T. 44 N., R. 96 W., Eades mine, 3½-foot cut.	5765	B	1	12.08	32.58	49.23	6.11	.91	5.42	63.76	.99	22.81	3.0	6,251	11,252	341	1076
			2	......	37.06	55.99	6.95	1.04	4.64	72.52	1.13	13.72	......	7,110	12,798		
			3	......	39.83	60.17	......	1.12	4.99	77.94	1.21	14.74	......	7,641	13,754		
24 miles east of; sec. 19, T. 44 N., R. 90 W., on Nowater Creek, at bottom of entry, 100 feet from surface, 6-foot bed, 65-inch cut.	6708	B	1	25.43	38.62	27.80	8.15	.38	......	......	......	......	18.3	4,573	8,231	381	1077
			2	......	51.79	37.28	10.93	.51	......	......	......	......	......	6,132	11,038		
			3	......	58.14	41.86	......	.57	......	......	......	......	......	6,884	12,391		

[a] Certain cities and towns now included in Park County are here listed under Bighorn County.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WYOMING—Continued.																	
BIGHORN COUNTY—continued.																	
Manderson, 1½ miles north of; 7 miles southeast of Basin, sec. 19, T. 50 N., R. 92 W., Rogers and Gapin mine, 59-inch cut.	5778	B	1	14.94	33.43	37.90	13.73	1.76	5.68	53.27	1.02	24.54	4.6	5,281	9,506	341	1077
			2	....	39.30	44.56	16.14	2.07	4.73	62.63	1.20	13.23	....	6,209	11,176		
			3	....	46.87	53.13	....	2.47	5.64	74.69	1.43	15.77	....	7,404	13,327		
Meeteetse, 3 miles northwest of; sec. 28, T. 49 N., R. 100 W., Black Diamond mine, 3½-foot cut.	5768	B	1	17.67	27.28	47.46	7.59	.17	5.35	57.08	.84	28.97	6.3	5,382	9,688	341	1078
			2	....	33.13	57.65	9.22	.20	4.11	69.33	1.02	16.12	....	6,537	11,767		
			3	....	36.50	63.50	....	.22	4.53	76.38	1.12	17.75	....	7,202	12,964		
2½ miles southwest of; SE. ¼ sec. 13, T. 48 N., R. 101 W., Grey Bull mine, 5-foot cut.	5769	B	1	15.04	32.49	41.64	10.83	1.07	5.67	55.43	1.10	25.90	4.4	5,514	9,925	341	1078
			2	....	38.25	49.00	12.75	1.26	4.70	65.24	1.29	14.76	....	6,490	11,682		
			3	....	43.84	56.16	....	1.44	5.39	74.77	1.48	16.92	....	7,438	13,388		
10 miles northwest of; on Horse Creek, NE. ¼ sec. 7, T. 49 N., R. 101 W., Orr mine, 125 feet from opening, 48-inch cut.	5764	B	1	16.12	35.12	40.78	7.98	.53	5.91	54.12	.92	30.54	5.5	5,179	9,322	341	1079
			2	....	41.87	48.62	9.51	.63	4.91	64.52	1.10	19.33	....	6,174	11,113		
			3	....	46.27	53.73	....	.70	5.43	71.30	1.22	21.35	....	6,823	12,281		
19 miles southeast of; 8 miles west of Ilo, sec. 26, T. 46 N., R. 99 W., Mayfield mine, on Grass Creek, 32-foot section, slightly weathered sample.	5770	B	1	12.84	33.96	48.15	5.05	.39	5.92	63.68	.80	24.16	2.9	6,248	11,246	341	1079
			2	....	38.96	55.25	5.79	.45	5.16	73.06	.91	14.63	....	7,168	12,902		
			3	....	41.36	58.64	....	.48	5.48	77.55	.97	15.52	....	7,609	13,696		
Tensleep, 12 miles southwest of; sec. 33, T. 46 N., R. 89 W., Bud Kimball Draw, 150 feet from opening, side of main entry, 70-inch bed, 5¾-foot cut.	6709	B	1	16.30	35.81	32.62	15.27	.96	5.63	50.84	.71	26.59	8.2	4,921	8,858	381	1079
			2	....	42.78	38.98	18.24	1.15	4.56	60.74	.85	14.46	....	5,879	10,582		
			3	....	52.32	47.68	....	1.41	5.58	74.29	1.04	17.68	....	7,191	12,944		
Wiley, 4 miles southwest of; sec. 34, T. 51 N., R. 101 W., West Wiley mine, 140 feet from opening, 46-inch cut.	5767	B	1	15.04	31.87	38.39	14.70	.76	5.49	52.42	.97	25.66	4.6	5,150	9,270	341	1080
			2	....	37.51	45.19	17.30	.89	4.50	61.70	1.14	14.47	....	6,062	10,912		
			3	....	45.36	54.64	....	1.08	5.44	74.61	1.38	17.49	....	7,330	13,194		
6 miles east of; sec. 10, T. 51 N., R. 100 W., East Wiley mine, 42-inch cut.	5762	B	1	13.43	35.16	42.86	8.55	.44	5.92	58.42	1.05	25.62	5.0	5,638	10,148	341	1080
			2	....	40.61	49.51	9.88	.51	5.12	67.48	1.21	15.80	....	6,513	11,723		
			3	....	45.06	54.94	....	.57	5.68	74.87	1.34	17.54	....	7,227	13,009		
CARBON COUNTY.																	
Arlington, 4 miles southwest of; 14 miles southwest of Rock River; SW. ¼ NW. ¼ sec. 2, T. 18 N., R. 78 W., Cottontail mine, 150 feet in, 5-foot cut.	6641	B	1	20.96	28.73	34.64	15.67	.86	....	....	....	....	12.8	....	....	....	1081
			2	....	36.35	43.82	19.83	1.09	....	....	....	....	....	....	....		
			3	....	45.34	54.66	....	1.36	....	....	....	....	....	....	....		

Baggs, 4½ miles northeast of; SW. ¼ sec. 24, T. 13 N., R. 91 W., 6-foot cut.	5447	B	1	26.02	30.08	37.85	6.05	1.01	....	....	....	....	12.8	4,641	8,354	341	1081
			2	....	40.66	51.16	8.18	1.87	....	....	....	....	....	6,273	11,291		
			3	....	44.28	55.72	....	1.49	....	....	....	....	....	6,832	12,298		
5 miles northeast of; NE. ¼ NE. ¼ sec. 23, T. 13 N., R. 91 W., 40 feet from entrance, 72-inch cut.	5448	B	1	23.99	28.49	39.41	8.11	.97	....	....	....	....	9.8	4,499	8,098	341	1082
			2	....	37.48	51.85	10.67	1.28	....	....	....	....	....	5,919	10,654		
			3	....	47.96	58.04	....	1.43	....	....	....	....	....	6,626	11,927		
20 miles north of; 1 mile west of Muddy Bridge stage station, NW. ¼ SW. ¼ sec. 12, T. 15 N., R. 92 W., Muddy Bridge prospect, 40 feet in, 7¾-foot section (25-inch cut).	5298	B	1	20.68	35.97	33.45	9.90	1.11	5.44	51.84	.72	30.99	5.8	4,843	8,717	341	1082
			2	....	45.35	42.17	12.48	1.40	3.96	65.36	.91	15.89	....	6,106	10,991	381	
			3	....	51.82	48.18	....	1.60	4.52	74.68	1.04	18.16	....	6,977	12,559		
Same (57-inch cut, 40 feet in)	5342	B	1	25.04	46.74	20.71	7.51	.39	5.55	51.13	.73	34.69	6.5	4,680	8,424	341	1082
			2	....	62.35	27.63	10.02	.52	3.70	68.21	.97	16.58	....	6,243	11,237		
			3	....	69.30	30.70	....	.58	4.11	75.81	1.08	18.42	....	6,938	12,488		
27 miles north of; SE. ¼ SE. ¼ sec. 4, T. 16 N., R. 92 W., 25 feet in, 26-inch cut.	5299	B	1	10.26	22.23	57.68	9.83	.87	2.72	67.94	.77	17.87	1.7	5,752	10,354	341	1082
			2	....	24.77	64.28	10.95	.97	1.76	75.71	.86	9.75	....	6,410	11,538		
			3	....	27.82	72.18	....	1.09	1.98	85.02	.97	10.94	....	7,198	12,956		
Carbon, SW. ¼ SE. ¼ sec. 26, T. 22 N., R. 80 W., No. 2 mine, 300 feet from opening, Main Carbon bed, 7-foot cut, weathered.	3735	B	1	9.20	41.10	44.16	5.54	1.01	....	....	....	....	3.1	....	....	316	1083
			2	....	45.26	48.64	6.10	1.11	....	....	....	....	....	....	....		
			3	....	48.19	51.81	....	1.18	....	....	....	....	....	....	....		
Same (280 feet from mouth of slope and 60 feet east of slope in unused room).	3664	B	1	8.77	39.74	45.52	5.97	1.00	....	....	....	....	1.1	....	....	316	1083
			2	....	43.56	49.90	6.54	1.10	....	....	....	....	....	....	....		
			3	....	46.61	53.39	....	1.18	....	....	....	....	....	....	....		
Same (50 feet off slope, 150 feet in mine)	3739	B	1	8.31	39.85	42.34	9.50	.92	....	....	....	....	3.0	....	....	316	1083
			2	....	43.46	46.18	10.36	1.00	....	....	....	....	....	....	....		
			3	....	48.48	51.52	....	1.12	....	....	....	....	....	....	....		
One-fourth mile west of; NE. ¼ SE. ¼ sec. 27, T. 22 N. R. 80 W., Main Carbon bed, 55-inch cut.	3740	B	1	11.92	36.37	46.18	5.53	1.71	....	....	....	....	4.1	....	....	316	1084
			2	....	41.29	52.43	6.28	1.94	....	....	....	....	....	....	....		
			3	....	44.06	55.94	....	2.07	....	....	....	....	....	....	....		
Same (140 feet from mouth of slope)	3741	B	1	13.24	35.71	43.59	7.46	1.39	....	....	....	....	5.2	....	....	316	1084
			2	....	41.16	50.24	8.60	1.60	....	....	....	....	....	....	....		
			3	....	45.03	54.97	....	1.75	....	....	....	....	....	....	....		
2¾ miles southeast of; SW. ¼ SE. ¼ sec. 36, T. 22 N., R. 80 W., No. 7 mine, 800 feet from mouth of slope, 96-inch cut. Main Carbon bed.	3743	B	1	10.23	38.14	42.45	9.18	1.16	....	....	....	....	3.8	....	....	316	1084
			2	....	42.49	47.28	10.23	1.29	....	....	....	....	....	....	....		
			3	....	47.33	52.67	....	1.44	....	....	....	....	....	....	....		
Same, 86-inch cut	3742	B	1	11.55	33.78	44.41	10.26	1.23	....	....	....	....	4.9	....	....	316	1084
			2		38.19	50.21	11.60	1.39	....	....	....	....	....	....	....		
			3	....	43.20	56.80	....	1.57	....	....	....	....	....	....	....		
6 miles southeast of; SE. ¼ SE. ¼ sec. 20, T. 21 N., R. 79 W., abandoned prospect near Johnson's sheep camp, middle bed, 3½-foot cut, probably weathered.	3647	B	1	18.71	36.38	38.46	6.45	.47	....	....	....	....	8.1	....	....	316	1084
			2	....	44.75	47.32	7.93	.58	....	....	....	....	....	....	....		
			3	....	48.60	51.40	....	.63	....	....	....	....	....	....	....		
9 miles southeast of; SE. ¼ NW. ¼ sec. 34, T. 21 N., R. 79 W., survey party opening, 4½-foot cut.	3649	B	1	14.53	36.84	44.40	4.23	.53	....	....	....	....	5.3	....	....	316	1085
			2	....	43.10	51.95	4.95	.62	....	....	....	....	....	....	....		
			3	....	45.35	54.65	....	.65	....	....	....	....	....	....	....		
12 miles south of; SW. ¼ NW. ¼ sec. 28, T. 21 N., R. 80 W., 280 feet from opening, 155½-inch bed (lower bench, 6-foot cut).	3645	B	1	9.21	41.56	44.86	4.37	.67	....	....	....	....	2.9	....	....	316	1085
			2	....	45.78	49.41	4.81	.74	....	....	....	....	....	....	....		
			3	....	48.09	51.91	....	.78	....	....	....	....	....	....	....		
Same (upper bench, 4-foot cut)	3648	B	1	6.79	45.80	41.10	6.31	.63	....	....	....	....	1.4	....	....	316	1085
			2	....	49.14	44.09	6.77	.68	....	....	....	....	....	....	....		
			3	....	52.71	47.29	....	.73	....	....	....	....	....	....	....		
Como, 2 miles west of; SW. ¼ NW. ¼ sec. 32, T. 23 N., R. 80 W., 6 feet from mouth of drift, 5½-foot cut.	3736	B	1	24.58	31.43	41.93	2.06	.88	....	....	....	....	11.8	....	....	316	1086
			2	....	41.67	55.60	2.73	1.17	....	....	....	....	....	....	....		
			3	....	42.84	57.16	....	1.20	....	....	....	....	....	....	....		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WYOMING—Continued.																	
CARBON COUNTY—continued.																	
Como—Continued.																	
Same, SE. ¼ NW. ¼ sec. 32, T. 23 N., R. 80 W., 6 feet from opening, lower bench, surface sample, 72-inch cut,).	3737	B	1	20.33	32.29	44.63	2.75	0.62	......	......	......	......	8.8	......	......	316	1086
			2	......	40.53	56.02	3.45	.78	......	......	......	......	......	......	......		
			3	......	41.98	58.02	......	.81	......	......	......	......	......	......	......		
Same (upper bench, weathered, 73-inch cut).	3738	B	1	18.43	35.09	42.90	3.58	.83	......	......	......	......	9.2	......	......	316	1086
			2	......	43.02	52.59	4.39	1.02	......	......	......	......	......	......	......		
			3	......	44.99	55.01	......	1.07	......	......	......	......	......	......	......		
Same, SW. ¼ SE. ¼ sec. 26, T. 22 N., R. 80 W., 150 feet from opening, lower bench, 4-foot cut. Main Carbon bed.	3739	B	1	8.31	39.85	42.34	9.50	.92	......	......	......	......	3.0	......	......	316	......
			2	......	43.46	46.18	10.36	1.00	......	......	......	......	......	......	......		
			3	......	48.48	51.52	......	1.12	......	......	......	......	......	......	......		
Copperton, 5 miles southwest of; SE. ¼ SW. ¼ sec. 7, T. 13 N., R. 87 W., Carbondale mine, wall of room 20 feet from main entry, 34-inch cut.	6642	B	1	13.02	33.37	45.51	8.10	1.10	5.70	60.39	1.35	23.36	7.9	5,955	10,719	......	1087
			2	......	38.37	52.32	9.31	1.26	4.89	69.43	1.55	13.56	......	6.846	12,323		
			3	......	42.31	57.69	......	1.39	5.39	76.56	1.71	14.95	......	7,549	13,588		
6 miles southwest of; NE. ¼ SW. ¼ sec. 13, T. 13 N., R. 88 W., Stemp Springs mine, wall of room 10 feet from minor entry, 37-inch cut.	6644	B	1	10.78	36.01	46.27	6.94	2.25	5.78	62.77	1.40	20.86	5.1	6,232	11,218	......	1087
			2	......	40.36	51.86	7.78	2.52	5.13	70.35	1.57	12.65	......	6,985	12,573		
			3	......	43.77	56.23	......	2.73	5.56	76.29	1.70	13.72	......	7,575	13,635		
Dixon, 5 miles east of; mouth of Savery Creek, SE. ¼ SE. ¼ sec. 6, T. 12 N., R. 89 W., Angier mine, (main entry, 11-foot bed, 8-foot cut).	5445	B	1	14.29	31.82	48.89	5.00	.46	5.62	60.70	1.02	27.20	4.5	5,889	10,600	......	1088
			2	......	37.13	57.04	5.83	.54	4.70	70.82	1.19	16.92	......	6,871	12,368		
			3	......	39.43	60.57	......	.57	4.99	75.21	1.26	17.97	......	7,296	13,134		
Same (210 feet from mouth, north opening from drift driven to left, 11-foot bed).	5446	B	1	15.21	32.77	48.51	3.51	.60	5.77	59.91	.98	29.23	6.2	5,849	10,528	......	1088
			2	......	38.65	57.21	4.14	.71	4.81	70.66	1.16	18.52	......	6,898	12,416		
			3	......	40.32	59.68	......	.74	5.02	73.71	1.21	19.32	......	7,196	12,953		
Darling mine, 265 feet in, drift from main entry, 15½-foot bed, 7½-foot cut.	5449	B	1	14.35	31.85	48.69	5.11	.55	5.82	62.37	.89	25.26	5.3	5,997	10,795	381	1088
			2	......	37.19	56.84	5.97	.64	4.94	72.82	1.04	14.59	......	7,002	12,604		
			3	......	39.55	60.45	......	.68	5.25	77.44	1.11	15.52	......	7,446	13,404		
7 miles east of; 4 miles northwest of Slater, Colo., SW. ¼ NW. ¼ sec. 9, T. 12 N., R. 89 W., Martin mine, 430 feet from main entry, 8-foot bed, 7-foot cut.	5444	B	1	15.80	33.29	47.47	3.44	.58	5.89	62.01	1.10	26.98	5.7	5,957	10,723	......	1088
			2	......	39.54	56.37	4.09	.69	4.90	73.64	1.31	15.37	......	7,075	12,735		
			3	......	41.23	58.77	......	.72	5.11	76.78	1.37	16.02	......	7,377	13,278		
12 miles east of; 4 miles northeast of Slater, Colo., SE. ¼ SW. ¼ sec. 8, T. 12 N., R. 88 W., Linde opening, 40 feet in, main entry, 8-foot cut.	6803	B	1	16.11	29.02	38.61	16.26	.64	5.28	50.42	.88	26.52	11.7	4,933	8,880	......	1089
			2	......	34.59	46.03	19.38	.76	4.16	60.10	1.05	14.55	......	5,880	10,584		
			3	......	42.91	57.09	......	.94	5.16	74.55	1.30	18.05	......	7,294	13,129		

Elk Mountain, 1½ miles south of; lot 3, sec. 4, T. 20 N., R. 80 W., in tunnel 11 feet from mouth, 176½-inch bed, 7-foot cut, lower bed.	3644	B	1	13.28	37.54	42.53	6.65	.48	......	......	......	......	5.0	......	......	316	1089
			2	......	43.29	49.04	7.67	.55	......	......	......	......	......	......	......		
			3	......	46.89	53.11	......	.60	......	......	......	......	......	......	......		
2 miles southwest of; lot 2, sec. 6, T. 20 N., R. 80 W., 14½-foot bed (lower bench, weathered, 4½-foot cut).	3650	B	1	14.66	35.71	44.41	5.22	.38	......	......	......	......	6.2	......	......	316	1089
			2	......	41.84	52.04	6.12	.45	......	......	......	......	......	......	......		
			3	......	44.57	55.43	......	.48	......	......	......	......	......	......	......		
Same (upper bench, 63-inch cut)............	3651	B	1	30.13	31.38	35.52	2.97	.33	......	......	......	......	16.7	......	......	316	1089
			2	......	44.91	50.84	4.25	.47	......	......	......	......	......	......	......		
			3	......	46.90	53.10	......	.49	......	......	......	......	......	......	......		
Fort Steele, 10 miles northeast of; NW. ¼ NE. ¼ sec. 2, T. 22 N., R. 84 W., upper 5 feet of bed weathered.	3924	B	1	27.39	32.52	33.31	6.78	.35	......	......	......	......	18.7	......	......	316	1090
			2	......	44.79	45.87	9.34	.48	......	......	......	......	......	......	......		
			3	......	49.40	50.60	......	.53	......	......	......	......	......	......	......		
10½ miles northeast of; SW. ¼ SW. ¼ sec. 36, T. 23 N., R. 84 W., upper 10 feet of bed weathered.	3927	B	1	29.96	29.55	36.93	3.56	.16	......	......	......	......	21.0	......	......	316	1090
			2	......	42.19	52.73	5.08	.23	......	......	......	......	......	......	......		
			3	......	44.45	55.55	......	.24	......	......	......	......	......	......	......		
12 miles southwest of; SW. ¼ NE. ¼ sec. 19, T. 19 N., R. 85 W., McCord opening, 100 feet from mouth, 62-inch cut.	3480	B	1	8.85	36.58	50.99	3.58	.92	5.76	68.68	1.73	19.33	3.6	6,701	12,062	316	1090
			2	......	40.13	55.94	3.93	1.01	5.24	75.35	1.90	12.57	......	7,352	13,234		
			3	......	41.77	58.23	......	1.05	5.46	78.43	1.98	13.08	......	7,652	13,774		
			4	......	......	......	......	......	5.52	79.26	2.00	13.22	......	7,709	13,876		
12½ miles southwest of; SE. ¼ NW. ¼ sec. 19, T. 19 N., R. 85 W., 200 feet from mouth of prospect tunnel, 46-inch cut.	3481	B	1	9.87	36.27	51.88	1.98	.90	......	......	......	......	4.1	......	......	316	1091
			2	......	40.24	57.56	2.20	1.00	......	......	......	......	......	......	......		
			3	......	41.15	58.85	......	1.02	......	......	......	......	......	......	......		
13 miles northwest of; SE. ¼ NE. ¼ sec. 18, T. 23 N., R. 85 W., Miller prospect, 49-inch cut, surface sample.	3931	B	1	19.26	31.79	44.62	4.33	.53	......	......	......	......	11.0	......	......	316	1091
			2	......	39.37	55.27	5.36	.66	......	......	......	......	......	......	......		
			3	......	41.60	58.40	......	.70	......	......	......	......	......	......	......		
14 miles south of; NE. ¼ NE. ¼ sec. 28, T. 19 N., R. 85 W., old Larson mine, 60 feet from mouth, 1½-foot cut, probably weathered.	3501	B	1	7.55	40.13	49.59	2.73	.74	......	......	......	......	1.8	......	......	316	1091
			2	......	43.41	53.64	2.95	.80	......	......	......	......	......	......	......		
			3	......	44.73	55.27	......	.82	......	......	......	......	......	......	......		
14 miles south of; NW. ¼ SW. ¼ sec. 26, T. 19 N., R. 85 W., Petty mine, 300 feet from mouth, room 4, 200 feet to right of main gangway, 2½-foot cut.	3509	B	1	7.51	37.80	48.81	5.88	.86	5.28	67.62	1.76	18.60	1.9	6,631	11,936	316	1092
			2	......	40.87	52.77	6.36	.93	4.81	73.11	1.90	12.89	......	7,169	12,904		
			3	......	43.64	56.36	......	.99	5.14	78.07	2.03	13.77	......	7,656	13,781		
15 miles south of; SW. ¼ NE. ¼ sec. 35, T. 19 N., R. 85 W., Phillips mine, 400 feet from opening, 2¾-foot cut.	3507	B	1	6.87	43.51	45.15	4.47	.89	......	......	......	......	.8	......	......	316	1092
			2	......	46.72	48.48	4.80	.96	......	......	......	......	......	......	......		
			3	......	49.07	50.93	......	1.01	......	......	......	......	......	......	......		
16 miles south of; NW. ¼ SW. ¼ sec. 36, T. 19 N., R. 85 W., abandoned slope, 150 feet in, 1½-foot cut, probably weathered.	3508	B	1	20.19	33.48	38.92	7.41	.70	......	......	......	......	7.7	......	......	316	1092
			2	......	41.95	48.77	9.28	.88	......	......	......	......	......	......	......		
			3	......	46.24	53.76	......	.97	......	......	......	......	......	......	......		
Hanna, Hanna No. 1 mine, Hanna No. 1 bed (4,000 feet south of slope, entry 20, middle bench, 9½-foot cut).	3606	B	1	9.57	42.69	40.44	7.30	.39	5.50	62.82	1.31	22.68	1.4	6,249	11,248	316	1092
			2	......	47.21	44.72	8.07	.43	4.91	69.47	1.45	15.67	......	6,910	12,438		
			3	......	51.35	48.65	......	.47	5.34	75.57	1.58	17.04	......	7,517	13,531		
			4	......	......	......	......	......	5.37	75.92	1.58	17.13	......	7,542	13,576		
Same (west side entry 19, middle bench, 8-foot cut).	3609	B	1	10.65	40.79	41.41	7.15	.39	......	......	......	......	2.2	......	......	316	1092
			2	......	45.65	46.35	8.00	.44	......	......	......	......	......	......	......		
			3	......	49.62	50.38	......	.48	......	......	......	......	......	......	......		
Same (725 feet from slope, west side entry 7, 4-foot cut).	3607	B	1	11.80	41.66	40.25	6.29	.44	5.79	62.45	.99	24.04	2.2	6,150	11,070	316	1092
			2	......	47.23	45.64	7.13	.50	5.08	70.80	1.12	15.37	......	6,973	12,551		
			3	......	50.87	49.14	......	.54	5.47	76.25	1.21	16.53	......	7,509	13,516		
			4	......	......	......	......	......	5.50	76.65	1.22	16.63	......	7,537	13,567		
Same (1,200 feet south of slope, east side entry 6, upper 7-foot bench, 79-inch cut).	3605	B	1	10.09	41.01	41.91	6.99	.49	5.53	62.66	1.26	23.07	2.2	6,279	11,302	316	1092
			2	......	45.61	46.62	7.77	.54	4.90	69.70	1.40	15.69	......	6,984	12,571		
			3	......	49.46	50.54	......	.59	5.32	75.57	1.52	17.00	......	7,572	13,630		
			4	......	......	......	......	......	5.35	76.02	1.53	17.10	......	7,605	13,689		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WYOMING—Continued.																	
CARBON COUNTY—continued.																	
Hanna, Hanna No. 1 mine—Continued.																	
Same (upper 5 feet of middle bench)	3608	B	1	9.81	43.39	40.68	6.12	0.51	......	......	......	......	1.9	......	......	316	1092
			2	......	48.11	45.10	6.79	.57	......	......	......	......	......	......	......		
			3	......	51.61	48.39	......	.61	......	......	......	......	......	......	......		
Hanna No. 2 mine, sec. 20, T. 22 N., R. 81 W., Hanna No. 2 bed (room 16 entry 4, lower bench, 8-foot cut).	3610	B	1	11.45	42.58	39.33	6.64	.38	5.27	59.66	.94	27.11	2.5	6,050	10,890	316	1093
			2	......	48.09	44.41	7.50	.43	4.52	67.37	1.06	19.12	......	6,832	12,298		
			3	......	51.99	48.01	......	.46	4.88	72.84	1.15	20.67	......	7,386	13,295		
			4	......	......	......	......	......	4.91	73.18	1.15	20.76	......	7,410	13,338		
Same (entry 6, upper 8 feet of middle bench, weathered).	3611	B	1	12.34	40.71	42.42	4.53	.23	......	......	......	......	2.6	......	......	316	1093
			2	......	46.44	48.39	5.17	.26	......	......	......	......	......	......	......		
			3	......	48.97	51.03	......	.27	......	......	......	......	......	......	......		
Same (1,900 feet south of slope)	3160	A	1	12.32	40.80	41.69	5.19	.23	......	......	......	......	3.8	6,168	11,102	332	1093
			2	......	46.53	47.55	5.92	.26	......	......	......	......	......	7,035	12,663		
			3	......	49.46	50.54	......	.28	......	......	......	......	......	7,478	13,460		
Same (2,000 feet south of slope)	3161	A	1	12.66	40.36	43.10	3.88	.21	......	......	......	......	4.1	......	......	332	1093
			2	......	46.21	49.35	4.44	.24	......	......	......	......	......	......	......		
			3	......	48.36	51.64	......	.25	......	......	......	......	......	......	......		
Same (1,700 feet south of slope, lower bench)	3162	A	1	11.49	40.38	42.24	5.89	.44	......	......	......	......	4.0	......	......	332 18	1093
			2	......	45.62	47.73	6.65	.50	......	......	......	......	......	......	......		
			3	......	48.87	51.13	......	.54	......	......	......	......	......	......	......		
Same (1,700 feet south of slope, middle bench).	3163	A	1	11.73	41.30	41.40	5.57	.29	......	......	......	......	3.5	......	......	332 23	1093
			2	......	46.79	46.90	6.31	.33	......	......	......	......	......	......	......		
			3	......	49.94	50.06	......	.35	......	......	......	......	......	......	......		
Same (run of mine, sample 1)	3363	C	1	11.30	40.32	41.07	7.31	.28	5.56	61.24	.88	24.73	2.3	5,975	10,755	332	......
			2	......	45.46	46.30	8.24	.32	4.85	69.04	.99	16.56	......	6,736	12,125		
			3	......	49.55	50.45	......	.35	5.29	75.24	1.08	18.04	......	7,342	13,216		
Same (run of mine, sample 2)	3396	C	1	12.40	39.75	41.08	6.77	.26	6.37	61.58	.85	24.17	3.8	5,948	10,706	332	......
			2	......	45.38	46.89	7.73	.30	5.70	70.30	.97	15.00	......	6,790	12,222		
			3	......	49.18	50.82	......	.33	6.18	76.19	1.05	16.25	......	7,359	13,246		
Same (5,000 feet southwest, room 40 off entry 5, lower bed, 8½ feet).	7131	A	1	11.27	37.47	44.74	6.52	.25	......	......	......	......	5.4	6,031	10,856	6	1093
			2	......	42.23	50.42	7.35	.28	......	......	......	......	......	6,797	12,235		
			3	......	45.58	54.42	......	.30	......	......	......	......	......	7,336	13,205		

Same (2,500 feet southwest, room 37 off entry 2, lower bed, 65-inch cut).	7130	A	1	11.96	36.93	44.87	6.24	.37	5.76	60.57	.95	26.11	6.93	5,910	10,638	6	1093
			2		41.95	50.96	7.09	.42	5.03	68.80	1.08	17.58		6,713	12,083		
			3		45.15	54.85		.45	5.41	74.05	1.16	18.93		7,225	13,005		
Hanna No. 3 mine. sec. 18, T. 22 N., R. 81 W., Hanna No. 1 bed (1,500 feet from mouth of slope, middle bench, entry 1, 7½-foot cut).	3612	B	1	11.21	42.59	42.03	4.17	.33					2.1			316	1094
			2		47.97	47.33	4.70	.33									
			3		50.33	49.67		.35									
Same (entry 4, 1,000 feet in, 74-inch cut)	3613	B	1	11.82	41.78	42.11	4.29	.29					3.1			316	1094
			2		47.38	47.75	4.87	.33									
			3		49.81	50.19		.35									
Same (entry 4, 1,410 feet in, 7½-foot cut)	3614	B	1	12.29	42.11	41.11	4.49	.33					3.3			316	1094
			2		48.01	46.87	5.12	.38									
			3		50.60	49.40		.40									
½ mile north of; sec. 18, T. 22 N., R. 81 W., 40 feet from mouth of prospect, No. 2 bed, middle bench, 7-foot cut.	3617	B	1	13.04	40.60	41.80	4.56	.22					3.4			316	1095
			2		46.69	48.07	5.24	.25									
			3		49.27	50.73		.26									
1 mile northeast of; SW. ¼ sec. 17, T. 22 N., R. 81 W., 140 feet from mouth of prospect, bed between beds 1 and 2, 5-foot cut.	3615	B	1	11.89	43.21	38.80	6.10	.56					2.6			316	1095
			2		49.04	44.04	6.92	.64									
			3		52.68	47.32		.69									
1 mile southwest of; SE. ¼ NW. ¼ sec. 24, T. 22 N., R. 82 W., 40 feet from mouth, first bed below Hanna, 3½-foot cut.	3616	B	1	13.12	41.42	39.78	5.68	.45					3.3			316	1095
			2		47.67	45.79	6.54	.52									
			3		51.01	48.99		.56									
4 miles north of; NW. ¼ NW. ¼ sec. 31, T. 23 N., R. 81 W., 5-foot cut in prospect, surface sample, weathered.	3822	B	1	16.93	32.38	48.08	2.61	.53					7.9			316	1096
			2		38.98	57.88	3.14	.64									
			3		40.24	59.76		.66									
8 miles north of; NE. ¼ NW. ¼ sec. 2, T. 22 N., R. 85 W., 3⅝-foot cut, weathered.	3929	B	1	20.41	37.64	37.31	4.64	.25					9.1			316	1096
			2		47.29	46.88	5.83	.31									
			3		50.22	49.78		.33									
10 miles north of; NE. ¼ SE. ¼ sec. 33, T. 24 N., R. 81 W., Rock Crossing mine, 300 yards south of Medicine Bow River (80 feet from opening, southeast corner of room, 49-inch cut, probably weathered).	3779	B	1	12.89	34.34	44.07	8.70	2.97					4.4			316	1096
			2		39.42	50.59	9.99	3.41									
			3		43.80	56.20		3.79									
Same (northeast corner of room, 4-foot cut)	3781	B	1	12.33	35.05	46.21	6.41	2.78					4.4			316	1096
			2		39.98	52.71	7.31	3.17									
			3		43.13	56.87		3.42									
11 miles northeast of; sec. 35, T. 24 N., R. 81 W., Coulter mine, 4-foot cut.	3780	B	1	15.33	33.63	45.34	5.70	2.27	6.04	57.02	1.63	27.34	5.8	5,690	10,245	316	1096
			2		39.72	53.55	6.73	2.68	5.13	67.34	1.93	16.19		6,720	12,096		
			3		42.59	57.41		2.87	5.50	72.20	2.06	17.37		7,205	12,969		
			4						5.66	74.34	2.13	17.87		7,352	13,234		
16 miles northwest of; SW. ¼ NE. ¼ sec. 11, T. 24 N., R. 83 W., 65-inch cut.	3790	B	1	13.06	35.11	48.86	2.97	1.10	5.52	61.72	1.38	27.31	3.7	6,041	10,874	316	1097
			2		40.38	56.20	3.42	1.27	4.68	70.99	1.59	18.05		6,948	12,506	341	
			3		41.81	58.19		1.31	4.85	73.50	1.64	18.70		7,194	12,949		
			4						4.91	74.48	1.67	18.94		7,260	13,068		
Iron, 1 mile southeast of; NW. ¼ SW. ¼ sec. 17, T. 25 N., R. 85 W., Kronkheit mine (Lower bed, 8-foot cut, 240 feet in).	3922	B	1	13.90	36.16	45.75	4.19	.36	5.45	59.98	1.35	28.67	5.7	5,846	10,523	316	1097
			2		42.00	53.13	4.87	.42	4.54	69.66	1.57	18.94		6,790	12,221		
			3		44.15	55.85		.44	4.77	73.23	1.65	19.91		7,137	12,847		
			4						4.79	73.55	1.66	20.00		7,159	12,886		
Same (Upper bed, 6½-foot cut)	3920	B	1	12.31	36.06	46.47	5.16	.33	5.54	61.65	1.34	25.98	4.6	5,925	10,665	316	1097
			2		41.12	53.00	5.88	.38	4.76	70.30	1.53	17.15		6,757	12,163		
			3		43.69	56.31		.40	5.05	74.70	1.62	18.23		7,179	12,922		
			4						5.07	75.00	1.63	18.30		7,200	12,960		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	**Moisture.**	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WYOMING—Continued.																	
CARBON COUNTY—continued.																	
Iron—Continued.																	
1½ miles southeast of; NW. ¼ SE. ¼ sec. **20, T. 25 N.,** R. 85 W., Burlington prospect, **5¼-foot cut,** weathered.	3916	B	1	33.81	30.45	32.37	3.37	0.15	......	......	......	......	24.3	......	......	316	1097
			2	......	46.00	48.91	5.09	.23	......	......	......	......	......	......	......		
			3	......	48.47	51.53	......	.24	......	......	......	......	......	......	......		
2 miles southeast of; SW. ¼ SE. ¼ sec. **20, T. 25 N.,** R. 85 W., Penn-Wyoming mine, **200 feet from** mouth, 58-inch cut.	3919	B	1	18.41	34.50	43.38	3.71	.28	5.52	53.87	1.29	35.33	10.0	5,072	9,130	316	1098
			2	......	42.28	53.17	4.55	.34	4.25	66.03	1.58	23.25	......	6,216	11,189		
			3	......	44.30	55.70	......	.36	4.46	69.17	1.66	24.35	......	6,512	11,722		
			4	......	......	......	......	......	4.47	69.42	1.66	24.45	......	6,528	11,750		
2½ miles southeast of; NW. ¼ NW. ¼ sec. 20, T. 25 N., R. 85 W., 4¾-foot cut, weathered.	3923	B	1	33.64	31.90	30.59	3.87	.27	......	......	......	......	24.2	......	......	316	1098
			2	......	48.07	46.10	5.83	.41	......	......	......	......	......	......	......		
			3	......	51.05	48.95	......	.44	......	......	......	......	......	......	......		
3½ miles southwest of; SE. ¼ NE. ¼ sec. 23, T. 25 N., R. 86 W., Fieldhouse opening, upper 50 inches of 95-inch bed, weathered.	3925	B	1	14.04	33.79	45.58	6.59	.40	......	......	......	......	5.2	......	......	316	1098
			2	......	39.31	53.02	7.67	.47	......	......	......	......	......	......	......	341	
			3	......	42.58	57.42	......	.51	......	......	......	......	......	......	......		
6 miles southeast of; NE. ¼ SW. ¼ sec. 35, T. 25 N., R. 85 W., Milier mine (80 feet from mouth, lower bed, 2½-foot cut).	3915	B	1	13.97	34.13	48.57	3.33	.47	......	......	......	......	5.8	......	......	316	1099
			2	......	39.67	56.46	3.87	.55	......	......	......	......	......	......	......		
			3	......	41.27	58.73	......	.57	......	......	......	......	......	......	......		
Same (80 feet from shaft, entire upper bed, 10½-foot cut).	3917	B	1	15.46	36.16	44.86	3.52	.79	5.60	58.87	1.44	29.78	7.4	5,843	10,517	316	1099
			2	......	42.77	53.07	4.16	.93	4.59	69.64	1.70	18.98	......	6,912	12,442		
			3	......	44.63	55.37	......	.98	4.79	72.66	1.78	19.79	......	7,212	12,922		
			4	......	......	......	......	......	4.84	73.38	1.79	19.99	......	7,259	13,066		
Same (40 feet from foot of shaft, upper bed, lower bench, 6½-foot cut).	3918	B	1	14.52	36.13	46.57	2.78	.45	......	......	......	......	6.7	......	......	316	1099
			2	......	42.27	54.48	3.25	.53	......	......	......	......	......	......	......		
			3	......	43.69	56.31	......	.55	......	......	......	......	......	......	......		
7½ miles southeast of; NE. ¼ SW. ¼ sec. 9, **T. 24 N.,** R. 85 W., O'Brien Springs **opening, 40 feet** from mouth, 4¾-foot bed.	3921	B	1	13.54	32.01	48.34	6.11	.50	......	......	......	......	7.0	......	......	316	1099
			2	......	37.02	55.91	7.07	.58	......	......	......	......	......	......	......		
			3	......	39.84	60.16	......	.62	......	......	......	......	......	......	......		
10 miles south of; NE. ¼ NW. ¼ sec. 26, **T. 24 N.,** R. 86 W., Burlington prospect, 20 **feet from** mouth of slope (lower 62 inches of **10¼-foot** bed, weathered).	3926	B	1	32.63	25.93	30.52	10.92	.28	......	......	......	......	23.3	......	......	316	1100
			2	......	38.49	45.30	16.21	.42	......	......	......	......	......	......	......		
			3	......	45.94	54.06	......	.50	......	......	......	......	......	......	......		
Same (upper 4¾ feet of 10¼-foot bed, weathered).	3928	B	1	19.19	28.39	43.59	8.83	.48	......	......	......	......	11.9	......	......	316	1100
			2	......	35.13	53.94	10.93	.59	......	......	......	......	......	......	......		
			3	......	39.44	60.56	......	.66	......	......	......	......	......	......	......		

Same, in SW. ¼ SE. ¼ sec. 26, T. 24 N., R. 86 W. (25 feet from mouth of slope, upper 5⅝ feet of 10-foot bed).	3930	B	1	31.72	29.75	34.94	3.59	.44	......	......	......	......	21.9	......	......	316	1100
			2	......	43.57	51.17	5.26	.64	......	......	......	......	......	......	......		
			3	......	45.99	54.01	......	.68	......	......	......	......	......	......	......		
1¼ miles southeast of; NW. ¼ NW. ¼ sec. 7, T. 24 N., R. 83 W., prospect pit, weathered (lower bench, 4¾-foot cut).	3807	B	1	39.40	27.67	29.39	3.54	.30	......	......	......	......	30.0	......	......	316	1100
			2	......	45.66	48.50	5.84	.50	......	......	......	......	......	......	......		
			3	......	48.49	51.51	......	.53	......	......	......	......	......	......	......		
Same (upper bench, 4⅓-foot cut)........	3824	B	1	39.07	29.31	27.94	3.68	.63	......	......	......	......	30.5	......	......	316	1100
			2	......	48.10	45.86	6.04	1.03	......	......	......	......	......	......	......		
			3	......	51.19	48.81	......	1.10	......	......	......	......	......	......	......		
27 miles northwest of; SW. ¼ NW. ¼ sec. 8, T. 27 N., R. 89 W., old Speyer mine, 4½-foot cut.	5818	B	1	18.98	34.15	40.22	6.65	.51	5.87	53.58	.87	32.52	7.1	5,074	9,133	341	1101
			2	......	42.15	49.64	8.21	.63	4.64	66.13	1.07	19.32	......	6,263	11,273		
			3	......	45.92	54.08	......	.69	5.05	72.04	1.17	21.05	......	6,823	12,281		
Rawlins, 3 miles southwest of; NE. ¼ NW. ¼ sec. 36, T. 21 N., R. 88 W., Dillon mine, 300 feet from mouth of slope, room 1, 4⅓-foot cut).	3478	B	1	14.12	32.95	46.37	6.56	.49	......	......	......	......	7.3	......	......	316	1101
			2	......	38.37	53.99	7.64	.57	......	......	......	......	......	......	......		
			3	......	41.54	58.46	......	.62	......	......	......	......	......	......	......		
Same (room 2, 360 feet in, 58-inch cut)........	3477	B	1	13.23	33.57	46.37	6.83	.63	......	......	......	......	6.7	......	......	316	1101
			2	......	38.69	53.44	7.87	.73	......	......	......	......	......	......	......		
			3	......	41.99	58.01	......	.79	......	......	......	......	......	......	......		
Same (30 feet in, 4½-foot bed and cut)........	5297	B	1	10.14	33.87	47.55	8.44	.49	5.17	63.75	1.32	20.83	2.4	6,116	11,009	341	1101
			2	......	37.69	52.92	9.39	.55	4.50	70.94	1.47	13.15	......	6,806	12,251		
			3	......	41.60	58.40	......	.61	4.97	78.29	1.62	14.51	......	7,511	13,520		
7 miles southeast of; SE. ¼ SE. ¼ sec. 13, T. 20 N., R. 87 W., survey party opening, 4½-foot cut, weathered.	3479	B	1	28.09	27.04	34.55	10.32	.29	......	......	......	......	21.2	......	......	316	1101
			2	......	37.60	48.05	14.35	.40	......	......	......	......	......	......	......		
			3	......	43.90	56.10	......	.47	......	......	......	......	......	......	......		
8 miles southeast of; NE. ¼ SW. ¼ sec. 6, T. 20 N., R. 88 W., Nebraska mine, 180 feet in, 8-foot cut).	5324	B	1	19.20	36.46	40.56	3.78	.34	5.74	58.88	1.34	29.92	2.3	5,401	9,722	341	1101
			2	......	45.12	50.20	4.68	.42	4.47	72.87	1.66	15.90	......	6,684	12,031		
			3	......	47.34	52.66	......	.44	4.69	76.45	1.74	16.68	......	7,012	12,622		
8 miles west of; SW. ¼ SW. ¼ sec. 12, T. 21 N., R. 89 W., surface exposure near Union Pacific R. R., weathered, 6-foot cut.	5815	B	1	17.24	31.88	49.28	1.60	.14	5.71	59.08	.33	33.14	5.6	5,719	10,294	341	1102
			2	......	38.52	59.55	1.93	.17	4.58	71.39	.40	21.53	......	6,910	12,438		
			3	......	39.28	60.72	......	.17	4.67	72.80	.41	21.95	......	7,046	12,683		
27 miles southwest of; SE. ¼ sec. 4, T. 17 N., R. 90 W., 1½ miles east of Sulphur stage station, Robertson opening, base of bed not exposed, 100 feet in, 11-foot bed, 8-foot cut.	5340	B	1	13.62	34.55	43.14	8.69	1.44	5.53	58.79	.89	24.66	1.9	5,744	10,339	341	
			2	......	40.00	49.94	10.06	1.67	4.65	68.06	1.03	14.53	......	6,650	11,970		1102
			3	......	44.47	55.53	......	1.86	5.17	75.67	1.15	16.15	......	7,394	13,309		
Walcott, 2½ miles north of; SE. ¼ SW. ¼ sec. 14, T. 21 N., R. 84 W., Buckley and Ryan mine, 4-foot cut (290 feet northeast of mouth of slope, room 4).	3538	B	1	12.08	35.40	49.68	2.84	.47	......	......	......	......	3.1	......	......	316	1102
			2	......	40.26	56.51	3.23	.53	......	......	......	......	......	......	......		
			3	......	41.60	58.40	......	.55	......	......	......	......	......	......	......		
Same (375 feet from mouth, entry 5)........	3544	B	1	11.17	35.42	50.57	2.84	.50	......	......	......	......	2.5	......	......	316	1102
			2	......	39.87	56.93	3.20	.56	......	......	......	......	......	......	......		
			3	......	41.19	58.81	......	.58	......	......	......	......	......	......	......		
8 miles southeast of; NW. ¼ SE. ¼ sec. 1, T. 20 N., R. 83 W., near mouth of slope, 84¼-inch cut.	3548	B	1	10.96	38.04	48.59	2.41	.29	5.37	62.25	1.59	28.09	.8	5,902	10,624	316	1103
			2	......	42.72	54.57	2.71	.33	4.66	69.91	1.79	20.60	......	6,628	11,930		
			3	......	43.91	56.09	......	.33	4.79	71.86	1.84	21.18	......	6,813	12,263		
			4	......	......	......	......	......	4.81	72.10	1.84	21.25	......	6,828	12,290		
12 miles north of; SE. ¼ SW. ¼ sec. 25, T. 23 N., R. 84 W., abandoned prospect ½ mile east of North Platte River, 80 feet in, 7-foot cut, (weathered).	3806	B	1	24.54	32.45	37.38	5.63	.24	......	......	......	......	5.1	......	......	316	1103
			2	......	43.00	49.54	7.46	.32	......	......	......	......	......	......	......		
			3	......	46.47	53.53	......	.35	......	......	......	......	......	......	......		
Same, 374 feet in (fresh surface)........	3826	B	1	13.19	31.70	50.23	4.88	.24	......	......	......	......	2.3	......	......	316	1103
			2	......	36.52	57.86	5.62	.28	......	......	......	......	......	......	......		
			3	......	38.69	61.31	......	.30	......	......	......	......	......	......	......		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WYOMING—Continued.																	
CARBON COUNTY—continued.																	
Walcott—Continued.																	
12½ miles north of; NW. ¼ SW. ¼ sec. 25, T. 23 N., R. 84 W., 700 yards southeast of Shirley Road, ½ mile east of North Platte River, abandoned mine, 7½-foot cut.	3808	B	1	13.59	31.77	49.35	5.29	0.33	5.22	61.06	.83	27.27	4.3	5,785	10,413	316	1103
			2	....	36.77	57.11	6.12	.38	4.29	70.66	.96	17.59	....	6,695	12,051		
			3	....	39.16	60.84	....	.41	4.57	75.27	1.02	18.73	....	7,131	12,836		
			4	....	....	....	....	....	4.59	75.58	1.03	18.80	....	7,152	12,874		
CONVERSE COUNTY.																	
Big Muddy, 2 miles north of; sec. 25, T. 34 N., R. 77 W., Cole Creek mine (680 feet from opening, lower bed, 3½-foot cut).	5325	B	1	22.87	48.03	20.54	8.56	.52	....	....	....	....	4.4	4,679	8,422	341	1103
			2	....	62.27	26.63	11.10	.67	....	....	....	....	....	6,066	10,919		
			3	....	70.05	29.95	....	.75	....	....	....	....	....	6,824	12,283		
Same (960 feet from opening, upper bed, 4⅔-foot cut).	5326	B	1	22.87	33.89	36.71	6.53	.97	....	....	....	....	4.2	4,956	8,921	341	1103
			2	....	43.94	47.59	8.47	1.26	....	....	....	....	....	6,426	11,567		
			3	....	48.00	52.00	....	1.38	....	....	....	....	....	7,020	12,636		
14 miles north of; sec. 36, T. 36 N., R. 77 W., surface outcrop, 2½-foot cut.	5422	B	1	35.01	28.46	28.82	7.71	.28	....	....	....	....	23.3	3,295	5,931	341	1104
			2	....	43.79	44.35	11.86	.43	....	....	....	....	....	5,070	9,126		
			3	....	49.68	50.32	....	.49	....	....	....	....	....	5,752	10,354		
Douglas, 1½ miles west of; 70 feet from mouth of mine, 22-inch cut, weathered.	5318	B	1	22.92	42.62	22.25	12.21	.58	....	....	....	....	4.3	4,071	7,328	341	1104
			2	....	55.29	28.87	15.84	.75	....	....	....	....	....	5,282	9,508		
			3	....	65.70	34.30	....	.89	....	....	....	....	....	6,276	11,297		
6 miles northwest of; sec. 27, T. 33 N., R. 72 W., La Preh bed, 70 feet northeast of opening, 1⅔-foot cut, weathered.	5321	B	1	37.86	29.08	22.37	10.69	.35	....	....	....	....	21.4	2,861	5,150	341	1104
			2	....	46.80	36.00	17.20	.56	....	....	....	....	....	4,604	8,287		
			3	....	56.52	43.48	....	.68	....	....	....	....	....	5,560	10,008		
Glenrock, sec. 4, T. 33 N., R. 75 W., Glenrock No. 1 mine, 2,600 feet in, Glenrock bed, 5½-foot cut.	5330	B	1	21.90	34.05	37.38	6.67	.86	....	....	....	....	3.3	5,040	9,072	341	1104
			2	....	43.60	47.86	8.54	1.10	....	....	....	....	....	6,453	11,615		
			3	....	47.67	52.33	....	1.20	....	....	....	....	....	7,056	12,701		
½ mile southeast of; sec. 4, T. 33 N., R. 75 W., Glenrock No. 2 mine, 1,100 feet in, Glenrock bed, 6-foot cut.	5322	B	1	19.92	49.25	20.25	10.58	.68	5.39	51.96	.60	30.79	1.5	4,851	8,732	341	1105
			2	....	61.50	25.29	13.21	.85	3.97	64.89	.75	16.33	....	6,058	10,904		
			3	....	70.86	29.14	....	.99	4.57	74.77	.86	18.81	....	6,980	12,564		
4 miles southwest of; sec. 12, T. 33 N., R. 76 W., prospect opening, 3-foot cut, weathered.	5320	B	1	15.58	23.28	22.68	38.46	1.17	....	....	....	....	2.4	2,941	5,294	341	1105
			2	....	27.58	26.86	45.56	1.39	....	....	....	....	....	3,484	6,271		
			3	....	50.66	49.34	....	2.55	....	....	....	....	....	6,400	11,520		
14 miles north of; sec. 30, T. 36 N., R. 75 W., surface outcrop, 50-inch cut, weathered.	5317	B	1	20.44	30.49	18.68	30.39	.43	....	....	....	....	5.3	3,136	5,645	341	1105
			2	....	38.32	23.48	38.20	.54	....	....	....	....	....	3,942	7,096		
			3	....	62.01	37.99	....	.87	....	....	....	....	....	6,379	11,482		

CROOK COUNTY.																	
Aladdin, Stilwell mine, room 1, off entry 4, or east entry 2 in new works, 750 feet from mouth.	1976	A	1	17.74	37.64	33.07	11.55	7.03	......	......	......	......	11.8	5,293	9,527	290	1105
			2	......	45.76	40.20	14.04	8.55	......	......	......	......	......	5,293	9,527	18	
			3	......	53.23	46.77	......	9.95	......	......	......	......	......	7,486	13,475	23	
Same, entry 2, 850 feet from mouth	1977	A	1	18.42	36.53	34.95	10.10	6.73	......	......	......	......	12.0	......	......	290	1105
			2	......	44.78	42.84	12.38	8.25	......	......	......	......	......	......	......		
			3	......	51.11	48.89	......	9.42	......	......	......	......	......	......	......		
Same (run of mine)	2278	C	1	15.12	34.36	33.82	16.70	6.66	5.20	48.16	.70	22.58	2.9	4,960	8,928	290	......
			2	......	40.48	39.85	19.67	7.85	4.15	56.73	.83	10.77	......	5,844	10,519		
			3	......	50.39	49.61	......	9.77	5.16	70.64	1.03	13.40	......	7,275	13,095		
			4	......	......	......	......	......	5.72	78.28	1.14	14.86	......	7,818	14,072		
Same (face 700 feet from entry, bituminous, 46-inch bed, 23-inch cut).	9320	B	1	17.77	37.56	39.56	5.11	5.60	5.94	55.69	.89	26.77	13.1	5,615	10,107	......	1105
			2	......	45.68	48.11	6.21	6.81	4.83	67.73	1.08	13.34	......	6,828	12,290		
			3	......	48.70	51.30	......	7.26	5.15	72.22	1.15	14.22	......	7,280	13,104		
Same (face 700 feet from entry, splint, 46-inch bed, 23-inch cut).	*9321	B	1	14.03	36.75	38.29	10.93	4.97	6.00	55.94	.85	21.31	9.7	5,739	10,330	......	1105
			2	......	42.75	44.54	12.71	5.78	5.16	65.07	.99	10.29	......	6,676	12,017		
			3	......	48.97	51.03	......	6.62	5.91	74.55	1.14	11.78	......	7,648	13,766		
Croton, NE. ¼ sec. 2, T. 52 N., R. 76 W., Croton mine, 120 feet in, Felix bed, 11 feet, 6-foot cut.	6432	B	1	25.82	32.86	35.74	5.58	.39	......	......	......	......	19.3	4,703	8,465	......	1106
			2	......	44.30	48.18	7.52	.53	......	......	......	......	......	6,340	11,412		
			3	......	47.90	52.10	......	.57	......	......	......	......	......	6,715	12,087		
Echeta, NW. ¼ NE. ¼ sec. 28, T. 52 N., R. 75 W., Echeta mine, 60 feet in, Felix bed, 15 feet from face of entry, 30-foot bed, 8-foot cut, weathered.	6448	B	1	23.49	32.43	37.10	6.98	.60	......	......	......	......	18.7	......	......	......	1106
			2	......	42.39	48.49	9.12	.78	......	......	......	......	......	......	......		
			3	......	46.65	53.35	......	.86	......	......	......	......	......	......	......		
Gillette, 1 mile west of; SW. ¼ sec. 17, T. 50 N., R. 72 W., Barker mine, 150 feet in, Felix 26-foot bed, 13-foot bench, 7-foot cut.	6542	B	1	33.51	29.13	28.89	8.47	3.26	......	......	......	......	25.4	......	......	......	1107
			2	......	43.81	43.45	12.74	4.90	......	......	......	......	......	......	......		
			3	......	50.21	49.79	......	5.62	......	......	......	......	......	......	......		
9 miles north of; NE. ¼ sec. 10, T. 51 N., R. 72 W., Hulbert mine, open pit, Lower Ulm bed, 22-foot cut.	6602	B	1	28.09	33.16	33.11	5.64	.58	......	......	......	......	19.6	......	......	......	1107
			2	......	46.11	46.05	7.84	.81	......	......	......	......	......	......	......		
			3	......	50.03	49.97	......	.88	......	......	......	......	......	......	......		
Oxus, 5 miles southwest of; sec. 21, T. 57 N., R. 76 W., 8 miles south of State line, Kendrick prospect, on Powder River, Powder River (32+-foot) bed, middle and upper benches, 9½-foot cut.	5402	B	1	28.55	29.43	38.31	3.71	.28	6.43	48.52	.76	40.30	14.2	4,574	8,233	341	1107
			2	......	41.19	53.62	5.19	.39	4.56	67.91	1.06	20.89	......	6,402	11,524		
			3	......	43.44	56.56	......	.41	4.81	71.62	1.12	22.04	......	6,752	12,154		
Rockefeller ranch, 1 mile east of; T. 56 N., R. 72 W., outcrop south of Elk Creek, Rockefeller mine, 20±-foot bed,[a] part sampled 7 feet.	*9219	B	1	32.72	28.05	34.08	5.15	1.07	......	......	......	......	26.0	4,370	7,866	......	1108
			2	......	41.69	50.66	7.65	1.59	......	......	......	......	......	6,495	11,691		
			3	......	45.14	54.86	......	1.72	......	......	......	......	......	7,033	12,659		
FREMONT COUNTY.																	
Hudson, sec. 2, T. 2 S., R. 2 E., Indian mine, 600 feet down slope, west entry 3, 86-inch cut.	6712	B	1	21.27	32.83	42.75	3.15	.89	6.13	55.91	.75	33.17	11.6	5,433	9,779	......	1108
			2	......	41.70	54.30	4.00	1.13	4.79	71.02	.95	18.11	......	6,901	12,422		
			3	......	43.44	56.56	......	1.18	4.99	73.98	.99	18.86	......	7,189	12,940		
1 mile south of; sec. 28, T. 34 N., R. 98 W., Wyoming Central mine, 500 feet down slope, south entry 2, sample wet, 63-inch cut.	6711	B	1	22.98	32.05	40.47	4.50	.48	6.16	53.84	1.12	33.90	15.4	5,202	9,364	......	1109
			2	......	41.61	52.55	5.84	.62	4.69	69.91	1.45	17.49	......	6,754	12,157		
			3	......	44.19	55.81	......	.66	4.98	74.24	1.54	18.58	......	7,173	12,911		
5 miles northwest of Mitchel mine, 240 feet in, room 1, 43-inch bed, 3½-foot cut.	9773	B	1	20.11	33.85	36.95	9.09	.87	......	......	......	......	10.6	5,177	9,319	......	1109
			2	......	42.37	46.25	11.38	1.09	......	......	......	......	......	6,480	11,664		
			3	......	47.81	52.19	......	1.23	......	......	......	......	......	7,312	13,162		
Lander, 5 miles northeast of; NW. ¼ SW. ¼ sec. 3, T. 33 N., R. 98 W., Big mine, 8-foot cut, 500 feet in.	4354	B	1	21.20	35.85	38.33	4.62	.53	6.08	55.25	1.15	32.37	6.2	5,357	9,643	316	1110
			2	......	45.49	48.65	5.86	.67	4.72	70.11	1.46	17.18	......	6,798	12,236		
			3	......	48.33	51.67	......	.71	5.01	74.48	1.55	18.25	......	7,222	13,000		
			4	......	......	......	......	......	5.05	75.02	1.56	18.37	......	7,257	13,063		

[a] Known as the Rockefeller bed.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WYOMING—Continued.																	
FREMONT COUNTY—continued.																	
Lander—Continued.																	
6 miles northeast of; SW. ¼ SE. ¼ sec. 33, T. 34 N., R. 98 W., Little mine, southwest drift, 4-foot cut, 500 feet in.	4355	B	1	22.90	38.09	35.81	3.20	.47	......	......	......	......	6.3	......	......	316	1110
			2	......	49.40	46.45	4.15	.61	......	......	......	......	......	......	......		
			3	......	51.54	48.46	......	.64	......	......	......	......	......	......	......		
Liberty, 8 miles southwest of; 30 miles northwest of Shoshone, sec. 34, T. 6 N., R. 2 E., prospect 12 feet from surface, 38-inch cut.	*9131	B	1	20.5	36.5	38.1	4.9	.50	......	......	......	......	25.3	4,290	7,720	......	1110
			2	......	46.0	47.8	6.2	.60	......	......	......	......	......	5,395	9,710		
			3	......	49.0	51.0	......	.65	......	......	......	......	......	5,750	10,350		
8½ miles southwest of; sec. 30, T. 6 N., R. 2 E., Le Clair mine, 50 feet in, 73-inch cut.	6706	B	1	21.35	30.99	35.69	11.97	.32	......	......	......	......	14.2	4,529	8,152	......	1110
			2	......	39.40	45.38	15.22	.41	......	......	......	......	......	5,759	10,367		
			3	......	46.47	53.53	......	.48	......	......	......	......	......	6,793	12,227		
14 miles southwest of; sec. 20, T. 6 N., R. 1 E., 35 miles northwest of Shoshone, Muddy Creek mine, 75 feet from entrance, 12⅛-foot bed, 3½-foot cut.	*9132	B	1	15.7	28.5	47.7	8.1	.35	......	......	......	......	10.4	5,510	9,920	......	1111
			2	......	34.0	56.4	9.6	.40	......	......	......	......	......	6,540	11,770		
			3	......	37.5	62.5	......	.45	......	......	......	......	......	7,230	13,020		
Riverton, 15 miles southeast of; sec. 5, T. 2 S., R. 6 E., Shipton mine, 45 feet from opening, 90-inch bed, 5½-foot cut.	*9772	B	1	34.11	30.41	29.27	6.21	.59	......	......	......	......	22.4	3,378	6,080	......	1111
			2	......	46.15	44.43	9.42	.90	......	......	......	......	......	5,127	9,229		
			3	......	50.95	49.05	......	.99	......	......	......	......	......	5,660	10,188		
30 miles northwest of; sec. 13, T. 3 N., R. 1 W., Kinnear mine, east entry 1, Kinnear bed, 33-inch cut.	*9133	B	1	14.85	34.01	42.56	8.58	.93	......	......	......	......	10.4	5,663	10,193	......	1112
			2	......	39.94	49.98	10.08	1.09	......	......	......	......	......	6,651	11,972		
			3	......	44.42	55.58	......	1.21	......	......	......	......	......	7,396	13,313		
Rongis, 18 miles southeast of; SW. ¼ SE. ¼ sec. 6, T. 27 N., R. 89 W., 8 miles northeast of Lost Soldier's Creek, Speyer prospect, 6-foot cut.	5816	B	1	23.60	44.30	28.00	4.10	.29	5.95	53.60	.86	35.20	8.3	5,013	9,023	341	1112
			2	......	57.98	36.66	5.36	.38	4.37	70.15	1.13	18.61	......	6,561	11,810		
			3	......	61.26	38.74	......	.40	4.62	74.12	1.19	19.67	......	6,932	12,478		
JOHNSON COUNTY.																	
Barber, 15 miles north of; 8 miles south of Arvada, sec. 29, T. 53 N., R. 77 W., outcrop, Healy or Lower Ulm bed, 13-foot cut.	6444	B	1	30.18	33.14	34.44	2.24	.83	......	......	......	......	25.3	......	......	......	1112
			2	......	47.47	49.32	3.21	1.19	......	......	......	......	......	......	......		
			3	......	49.05	50.95	......	1.23	......	......	......	......	......	......	......		
Buffalo, 1 mile northeast of, NE. ¼ sec. 26, T. 51 N., R. 82 W., Mitchell mine, 20 feet north of foot of slope (lower bench, 77-inch cut).	6470	B	1	29.05	29.07	34.67	7.21	.39	6.53	44.64	.50	40.73	22.9	4,237	7,627	381	1113
			2	......	40.97	48.87	10.16	.55	4.65	62.92	.70	21.02	......	5,972	10,750		
			3	......	45.60	54.40	......	.61	5.18	70.04	.78	23.39	......	6,647	11,965		
Same (upper bench, 52½-inch cut)............	6469	B	1	26.78	32.81	27.94	12.47	.64	6.04	42.72	.60	37.53	20.5	4,080	7,344	......	1113
			2	......	44.81	38.16	17.08	.87	4.18	58.34	.82	18.76	......	5,572	10,030		
			3	......	54.01	45.99	......	1.05	5.04	70.31	.99	22.61	......	6,715	12,087		

SW. ¼, sec. 36, T. 51 N., R. 82 W., Munkre mine, 200 feet from foot of slope, 6-foot cut.	6410	B	1	27.96	29.75	32.82	9.47	.74	6.40	43.84	.60	38.95	19.9	4,212	7,582	381	1114
			2	....	41.30	45.55	13.15	1.08	4.57	60.85	.83	19.57	....	5,847	10,525		
			3	....	47.55	52.45	....	1.19	5.26	70.06	.96	22.53	....	6,732	12,118		
Hamilton, 4 miles southwest of; SE. ¼ sec. 3, T. 52 N., R. 82 W., surface prospect, Healy bed, 10 feet 10½ inches (upper part of bed, 30½-inch cut).	6434	B	1	29.43	31.96	35.13	3.48	.31	....	....	....	....	21.2	....	....	381	1114
			2	....	45.29	49.78	4.93	.44	....	....	....	....	....	....	....		
			3	....	47.64	52.36	....	.46	....	....	....	....	....	....	....		
Same (lower part of bed, 3½-foot cut)..........	6435	B	1	28.39	31.05	34.08	6.48	.72	6.39	46.22	.73	39.46	20.6	4,443	7,997	......	1114
			2	....	43.36	47.59	9.05	1.01	4.52	64.55	1.02	19.85	....	6,205	11,169		
			3	....	47.67	52.33	....	1.11	4.97	70.97	1.12	21.83	....	6,822	12,280		
NATRONA COUNTY.																	
Casper, 8 miles southeast of; sec. 20, T. 33 N., R. 78 W., 30 feet from prospect opening, lowest bed, 3-foot cut, weathered.	5319	B	1	19.83	41.39	26.21	12.57	.72	....	....	....	....	2.0	4,581	8,246	341	1115
			2	....	51.63	32.69	15.68	.91	....	....	....	....	....	5,714	10,285		
			3	....	61.23	38.77	....	1.08	....	....	....	....	....	6,777	12,199		
13 miles east of; sec. 4, T. 33 N., R. 77 W., 3 miles southwest of Big Muddy, surface prospect, 22-inch cut, weathered.	5323	B	1	19.17	26.17	17.54	37.12	.52	3.85	30.68	.56	27.27	5.3	2,718	4,892	341	1115
			2	....	32.38	21.70	45.92	.64	2.13	37.96	.69	12.66	....	3,363	6,053		
			3	....	59.87	40.13	....	1.18	3.94	70.19	1.28	23.41	....	6,219	11,194		
Efell, 3 miles northeast of; sec. 8, T. 33 N., R. 83 W., Efell mine, 200 feet from entrance, 67-inch bed, 4½-foot cut.	*9149	B	1	26.04	28.94	37.95	7.07	.61	....	....	....	....	18.6	4,651	8,372	......	1116
			2	....	39.13	51.31	9.56	.82	....	....	....	....	....	6,288	11,318		
			3	....	43.27	56.73	....	.91	....	....	....	....	....	6,953	12,515		
Oil City, 2½ miles northwest of; sec. 27, T. 34 N., R. 86 W., end of entrance, 90 feet from surface, bed 14 feet 10 inches, 7½-foot cut.	*9145	B	1	28.34	30.33	34.14	7.19	.43	....	....	....	....	22.2	4,181	7,526	......	1116
			2	....	42.33	47.64	10.03	.60	....	....	....	....	....	5,834	10,501		
			3	....	47.05	52.95	....	.67	....	....	....	....	....	6,484	11,671		
Powder River, 2½ miles southwest of; sec. 14, T. 35 N., R. 85 W., 350 feet down slope from entry, 4¾-foot bed, 53-inch cut.	*9183	B	1	23.71	28.50	38.06	9.73	.70	....	....	....	....	12.2	4,597	8,275	......	1117
			2	....	37.36	49.89	12.75	.92	....	....	....	....	....	6,026	10,846		
			3	....	42.82	57.18	....	1.05	....	....	....	....	....	6,906	12,431		
PARK COUNTY.[a]																	
SHERIDAN COUNTY.																	
Arvada, NE. ¼ NW. ¼, sec. 21, T. 54 N., R. 77 W., Arvada mine (bed 10⅜ feet, cut 10⅜ feet, 100 feet in), Arvada bed.	6459	B	1	29.33	28.58	36.42	5.67	1.21	6.27	45.09	.89	40.87	24.3	4,324	7,783	......	1117
			2	....	40.44	51.54	8.02	1.71	4.26	63.80	1.26	20.95	....	6,118	11,012		
			3	....	43.97	56.03	....	1.86	4.63	69.36	1.37	22.78	....	6,651	11,972		
Same (bed 10⅜ feet; cut included lower half)...	6461	B	1	29.39	26.99	37.90	5.72	1.92	....	....	....	....	24.0	4,286	7,715	......	1117
			2	....	38.22	53.68	8.10	2.71	....	....	....	....	....	6,070	10,926		
			3	....	41.59	58.41	....	2.88	....	....	....	....	....	6,605	11,889		
Carneyville, 1 mile east of; sec. 16, T. 57 N., R. 84 W., Carney mine, Carney bed (lower bench, 10¾-foot cut).	5388	B	1	22.76	34.22	39.58	3.44	.35	6.03	54.89	1.02	34.27	6.6	5,239	9,430	341	1117
			2	....	44.30	51.25	4.45	.45	4.53	71.06	1.32	18.19	....	6,783	12,209		
			3	....	46.36	53.64	....	.47	4.74	74.37	1.38	19.04	....	7,099	12,778		
Same (upper bench, 4½-foot cut)...............	5387	B	1	21.45	35.08	39.08	4.39	.75	5.81	54.89	1.00	33.16	6.6	5,398	9,716	341	1117
			2	....	44.66	49.75	5.59	.95	4.37	69.88	1.27	17.94	....	6,872	12,370		
			3	....	47.30	52.70	....	1.01	4.63	74.02	1.35	18.99	....	7,279	13,102		
3½ miles northeast of; S. ½ sec. 2, T. 57 N., R. 84 W., on Tongue River, Evans mine, 60 feet in, Evans bed (14½-foot cut).	5377	B	1	20.38	34.19	42.04	3.39	.47	....	....	....	....	7.1	5,435	9,783	341	1118
			2	....	42.94	52.80	4.26	.59	....	....	....	....	....	6,825	12,285		
			3	....	44.85	55.15	....	.62	....	....	....	....	....	7,129	12,832		
13 miles northeast of; 3 miles southeast of Decker, NE. ¼ sec. 29, T. 58 N., R. 82 W., on Badger Creek, Evans mine (6-foot cut).	5382	B	1	23.28	35.47	37.34	3.91	.26	....	....	....	....	10.0	4,923	8,861	341	1118
			2	....	46.24	48.66	5.10	.34	....	....	....	....	....	6,417	11,551		
			3	....	48.72	51.28	....	.36	....	....	....	....	....	6,762	12,172		
Carroll, 1¼ miles north of; sec. 14, T. 54 N., R. 83 W., Betheurem mine (75 feet in, 64-inch cut). Lower Ulm bed.	5748	B	1	24 70	35.17	30.02	10.11	.46	....	....	....	....	15.0	4,232	7,618	341	1118
			2	....	46.71	39.87	13.42	.61	....	....	....	....	....	5,620	10,116		
			3	....	53.95	46.05	....	.70	....	....	....	....	....	6,491	11,684		

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[a] Certain cities and towns now included in Park County are here listed under Bighorn County.

Table of *chemical analyses*—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WYOMING—Continued.																	
SHERIDAN COUNTY—continued.																	
Dietz, sec. 34, T. 57 N., R. 84 W., Dietz No. 1 mine, 2,800 feet in, Dietz No. 1 bed (8 feet 7 inches from lower bench).	5381	B	1	24.70	37.55	33.04	4.71	0.39	6.24	51.50	1.07	36.09	10.4	4,946	8,903	341	1119
			2	....	49.87	43.88	6.25	.52	4.65	68.39	1.42	18.77	....	6,568	11,822		
			3	....	53.20	46.80	....	.55	4.96	72.95	1.51	20.03	....	7,006	12,611		
Dietz No. 4 mine, 600 feet in, Dietz No. 2 bed (8½-foot cut).	5378	B	1	22.86	33.21	37.05	6.88	1.22	....	....	....	....	8.7	5,001	9,002	341	1119
			2	....	43.05	48.03	8.92	1.58	....	....	....	....	....	6,483	11,669		
			3	....	47.26	52.74	....	1.73	....	....	....	....	....	7,118	12,812		
¾ mile south of; sec. 3, T. 56 N., R. 84 W., Dietz No. 3 mine, 400 feet in, Dietz No. 2 bed (8½-foot cut).	5379	B	1	22.53	35.30	34.46	7.71	.86	....	....	....	....	8.7	5,021	9,038	341	1119
			2	....	45.57	44.48	9.95	1.11	....	....	....	....	....	6,482	11,668		
			3	....	50.61	49.39	....	1.23	....	....	....	....	....	7,198	12,956		
1 mile east of; sec 35, T. 57 N., R. 84 W., Dietz No. 2 mine, 2,000 feet in, Dietz No. 2 bed (8½-foot cut).	5385	B	1	21.26	34.08	37.75	6.91	1.12	....	....	....	....	6.3	5,124	9,223	341	1120
			2	....	43.28	47.94	8.78	1.42	....	....	....	....	....	6,507	11,713		
			3	....	47.43	52.57	....	1.56	....	....	....	....	....	7,134	12,841		
Same (face south entry 1, off new east entry, 71½-inch cut).	7591	B	1	23.55	31.28	40.19	4.98	.74	....	....	....	....	15.80	5,236	9,425	......	1120
			2	....	40.91	52.58	6.51	.97	....	....	....	....	....	6,849	12,328		
			3	....	43.76	56.24	....	1.04	....	....	....	....	....	7,326	13,187		
1½ miles north of; sec. 27, T. 57 N., R. 84 W., Dietz No. 5 mine, Dietz No. 2 bed (8½ foot cut).	5384	B	1	22.38	31.85	39.42	6.35	1.16	6.32	52.25	1.19	32.73	8.1	5,137	9,247	341	1120
			2	....	41.03	50.79	8.18	1.49	4.93	67.32	1.53	16.55	....	6,618	11,912		
			3	....	44.69	55.31	....	1.62	5.37	73.32	1.67	18.02	....	7,208	12,974		
2 miles north of; NE. ¼ sec. 22, T. 57 N., R. 84 W., 6-foot prospect cut from Dietz No. 3 bed, 80 feet in.	5383	B	1	19.83	35.05	38.91	6.21	.94	5.86	53.21	1.08	32.70	7.0	5,148	9,266	341	1120
			2	....	43.72	48.53	7.75	1.17	4.56	66.38	1.35	18.79	....	6,421	11,558		
			3	....	47.39	52.61	....	1.27	4.94	71.96	1.46	20.37	....	6,960	12,528		
2 miles northeast of; sec. 25, T. 57 N., R. 84 W., Roland mine, 60 feet in, Roland bed (7½-foot cut).	5380	B	1	23.54	34.46	37.18	4.82	1.44	....	....	....	....	6.9	5,005	9,009	341	1120
			2	....	45.07	48.63	6.30	1.88	....	....	....	....	....	6,547	11,783		
			3	....	48.10	51.90	....	2.01	....	....	....	....	....	6,987	12,577		
Kendrick, 1½ miles north of; sec. 13, T. 55 N., R. 78 W., Sweat's mine, Arvada bed (end of gangway, 9-foot cut).	7374	B	1	30.88	33.93	29.68	5.51	.85	....	....	....	....	24.4	4,426	7,967	......	1121
			2	....	49.09	42.94	7.97	1.23	....	....	....	....	....	6,404	11,527		
			3	....	53.34	46.66	....	1.34	....	....	....	....	....	6,959	12,526		
Same (40 feet from entrance, 9-foot cut)	6798	B	1	18.30	34.64	40.69	6.37	1.15	5.66	53.93	1.05	31.84	8.7	5,115	9,207	......	1121
			2	....	42.40	49.80	7.80	1.40	4.44	66.01	1.29	19.06	....	6,261	11,270		
			3	....	45.99	54.01	....	1.52	4.82	71.59	1.40	20.67	....	6,791	12,224		
NW. ¼ NW. ¼, sec. 12, T. 55 N., R. 78 W., on Clear Creek, surface outcrop, Smith bed (10-foot cut).	6460	B	1	28.77	32.47	34.05	4.71	.46	....	....	....	....	24.0	4,368	7,862	......	1121
			2	....	45.58	47.81	6.61	.64	....	....	....	....	....	6,132	11,038		
			3	....	48.81	51.19	....	.69	....	....	....	....	....	6,566	11,819		

NE. ¼ SE. ¼, sec. 24, T. 55 N., R. 78 W., Wyoming Smokeless shaft mine, Kendrick bed, 12-foot cut.	5922	B	1	30.32	30.79	31.90	6.99	1.25	6.36	44.76	.91	39.73	15.3	4,278	7,700	341	1121
			2		44.19	45.78	10.03	1.79	4.29	64.24	1.31	18.34		6,139	11,050		
			3		49.12	50.88		1.99	4.77	71.40	1.46	20.38		6,823	12,281		
Monarch, 9 miles northwest of Sheridan, sec. 19, T. 57 N., R. 84 W., Monarch mine, Monarch bed, about 1,000 feet from shaft.	1368	A	1	22.00	35.92	38.71	3.37	.60			1.03		5.0	5,442	9,796	261	1121
			2		46.05	49.63	4.32	.77			1.32			6,977	12,559	341	
			3		48.13	51.87		.80			1.38			7,292	13,126	*48*	
Same	1369	A	1	21.44	37.16	36.49	4.91	.53					4.5			261	1121
			2		47.30	46.45	6.25	.67								341	
			3		50.45	49.55		.71								*48*	
Same (lump, over 5-inch screen, 3 tons)	1479	C	1	22.63	35.68	37.19	4.50	.59	6.39	54.91	1.02	32.59	6.0	5,406	9,734	261	......
			2		46.12	48.06	5.82	.76	5.01	70.97	1.32	16.12		6,990	12,582	*48*	
			3		48.97	51.03		.81	5.32	75.35	1.40	17.12		7,421	13,358		
			4					.41	5.37	75.98	1.41	17.24		7,465	13,437		
Same (lump, over 5-inch screen, [illegible] tons)	1006	C	1	21.83	35.06	38.62	4.49	.48								......	......
			2		44.85	49.41	5.74	.61									
			3		47.58	52.42		.65									
Same (3,000 feet in, Monarch 25-foot bed, near crop).	5395	B	1	23.58	37.98	34.87	3.57	.49					6.9	5,149	9,268	341	1121
			2		49.70	45.63	4.67	.64						6,738	12,128	*48*	
			3		52.14	47.86		.67						7,068	12,722		
Same (3,000 feet in, Monarch 25-foot bed, under thick cover).	5386	B	1	21.39	35.36	40.03	3.22	.31					8.4	5,367	9,661	341	1121
			2		44.98	50.92	4.10	.39						6,827	12,289	*48*	
			3		46.91	53.09		.41						7,119	12,814		
1 mile northwest of; sec. 24, T. 57 N., R. 85 W., Kennedy prospect, 500 feet in, Monarch 34-foot bed, lower 6-foot bench.	5393	B	1	22.63	37.27	27.21	2.89	.21					5.8	5,260	9,468	341	1122
			2		48.17	48.10	3.73	.27						6,799	12,238		
			3		50.03	49.97		.28						7,062	12,712		
1½ miles west of; sec. 14, T. 57 N., R. 85 W., Masters mine, 300 feet in, Upper Masters bed, 58-inch cut.	5389	B	1	22.71	34.78	36.60	5.91	.29	6.14	52.54	1.03	34.09	9.6	5,115	9,207	341	1122
			2		45.00	47.35	7.65	.38	4.68	67.98	1.33	17.98		6,618	11,912		
			3		48.73	51.27		.41	5.07	73.61	1.44	19.47		7,166	12,899		
2 miles northwest of; sec. 23, T. 57 N., R. 85 W., Kooi mine, 150 feet in, Monarch bed, lower bench, 7½-foot cut.	5391	B	1	24.10	37.49	34.60	3.81	.34					9.5	5,080	9,144	341	1122
			2		49.40	45.58	5.02	.45						6,694	12,049		
			3		52.01	47.99		.47						7,048	12,686		
3 miles northwest of; sec. 12, T. 57 N., R. 85 W., Connable prospect, 150 feet in, Carney bed, 8-foot cut.	5394	B	1	24.36	35.79	36.90	2.95	.32					7.2	5,079	9,142	341	1123
			2		47.32	48.78	3.90	.42						6,714	12,085		
			3		49.24	50.76		.44						6,987	12,577		
Sheridan, 3 miles north of; NW. ¼ NE. ¼ sec. 10, T. 56 N., R. 84 W., Smith mine, 200 feet in, Smith bed 59-inch cut.	5545	B	1	23.93	35.75	34.25	6.07	.82	6.49	50.98	1.08	34.56	8.1	4,902	8,824	341	1123
			2		47.00	45.02	7.98	1.08	5.03	67.02	1.42	17.47		6,444	11,599		
			3		51.07	48.93		1.17	5.47	72.83	1.54	18.99		7,003	12,605		
3½ miles southeast of; SW. ¼ NW. ¼ sec. 7, T. 55 N., R. 83 W., Martin mine, 100 feet in, 58-inch cut	5546	B	1	22.35	31.41	34.70	11.54	2.67	5.69	47.94	1.02	31.14	7.0	4,572	8,230	341	1124
			2		40.45	44.69	14.86	3.44	4.13	61.74	1.31	14.52		5,888	10,598		
			3		47.51	52.49		4.04	4.85	72.51	1.54	17.06		6,915	12,447		
6 miles southwest of; sec. 3, T. 55 N., R. 85 W., north side Big Goose Creek, Black Diamond mine, 325 feet in, Monarch (?) bed, 12-foot cut.	5392	B	1	23.00	35.10	37.15	4.75	.39	6.14	53.01	1.06	34.65	9.5	5,090	9,162	341	1124
			2		45.58	48.25	6.17	.51	4.65	68.84	1.38	18.45		6,610	11,898		
			3		48.58	51.42		.54	4.96	73.37	1.47	19.66		7,045	12,681		
6½ miles southwest of; SE. ¼ sec. 14, T. 55 N., R. 85 W., on Beaver Creek, Nelson mine, 650 feet in, Monarch (?) bed, 144-inch cut.	5390	B	1	24.12	38.27	29.42	8.19	1.06					6.9	4,692	8,446	341	1124
			2		50.44	38.76	10.80	1.40						6,184	11,131		
			3		56.55	43.45		1.57						6,933	12,479		
8 miles southwest of; S. ½ sec. 11, T. 55 N., R. 85 W., Moore mine, 150 feet in, Monarch (?) bed, 9-foot cut.	5747	B	1	19.87	35.98	38.86	5.29	.47					8.9	5,089	9,160	341	1125
			2		44.90	48.50	6.60	.59						6,351	11,432		
			3		48.07	51.93		.63						6,800	12,240		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WYOMING—Continued.																	
SWEETWATER COUNTY.																	
Alkali Butte south of; sec. 25, T. 34 N., R. 95 W., Signor mine, south entry 1, 100 feet from opening, 50-inch cut.	6710	B	1	26.05	30.74	38.15	5.06	0.61	......	......	......	......	17.3	4,867	8,761	......	1125
			2	......	41.57	51.59	6.84	.82	......	......	......	......	......	6,582	11,848		
			3	......	44.62	55.38	......	.88	......	......	......	......	......	7,065	12,717		
Black Buttes, sec. 16, T. 18 N., R. 100 W., Black Buttes mine (abandoned), 5½-foot cut, 250 feet in.	5952	B	1	12.85	30.36	52.48	4.31	.56	5.21	60.27	1.47	28.18	3.6	5,877	10,579	341	1126
			2	......	34.83	60.23	4.94	.64	4.34	69.16	1.69	19.23	......	6,743	12,137		
			3	......	36.64	63.36	......	.67	4.57	72.76	1.78	20.22	......	7,094	12,769		
1 mile south of; sec. 20, T. 18 N., R. 100 W., Rock Springs-Gibraltar mine (150 feet in, 6½-foot cut).	5808	B	1	18.86	29.17	47.85	4.12	.49	5.64	58.96	1.45	29.34	5.8	5,713	10,283	341	1126
			2	......	35.95	58.98	5.07	.60	4.38	72.65	1.79	15.51	......	7,040	12,672		
			3	......	37.87	62.13	......	.63	4.61	76.53	1.89	16.34	......	7,416	13,349		
Same (140 feet in, 4½-foot cut)	5811	B	1	19.42	31.02	45.02	4.54	.51	......	......	......	......	6.1	5,677	10,219	341	1126
			2	......	38.50	55.87	5.63	.63	......	......	......	......	......	7,045	12,681		
			3	......	40.80	59.20	......	.67	......	......	......	......	......	7,466	13,439		
Same (70½-inch cut, 355 feet in)	7093	B	1	20.77	28.38	47.12	3.73	.36	5.98	57.11	1.06	31.76	15.6	5,507	9,913	381	1126
			2	......	35.81	59.48	4.71	.45	4.63	72.08	1.34	16.79	......	6,950	12,510		
			3	......	37.58	62.42	......	.47	4.86	75.64	1.41	17.62	......	7,293	13,127		
Same (100 feet in)	7170	B	1	18.87	28.93	48.07	4.13	.43	5.82	59.20	1.43	28.99	7.9	5,607	10,093	381	1126
			2	......	35.66	59.25	5.09	.53	4.59	72.97	1.76	15.06	......	6,911	12,440		
			3	......	37.57	62.43	......	.56	4.84	76.88	1.85	15.87	......	7,281	13,106		
Same (50 feet in)	7103	B	1	17.22	30.32	48.23	4.23	.35	5.36	56.22	1.51	32.33	13.1	5,216	9,389	381	1126
			2	......	36.63	58.26	5.11	.42	4.17	67.91	1.82	20.57	......	6,301	11,342		
			3	......	38.60	61.40	......	.44	4.39	71.57	1.92	21.68	......	6,641	11,954		
Same (150 feet in)	7097	B	1	18.69	29.23	48.35	3.73	.44	5.79	58.45	1.41	30.18	13.1	5,582	10,047	381	1126
			2	......	35.95	59.46	4.59	.54	4.56	71.89	1.73	16.69	......	6,865	12,357		
			3	......	37.68	62.32	......	.57	4.78	75.34	1.81	17.50	......	7,195	12,951		
Same (225 feet in)	7096	B	1	19.54	28.21	47.85	4.40	.37	5.89	57.34	1.40	30.60	14.5	5,465	9,837	381	1126
			2	......	35.06	59.47	5.47	.46	4.62	71.27	1.74	16.44	......	6,792	12,226		
			3	......	37.09	62.91	......	.49	4.89	75.40	1.84	17.38	......	7,185	12,933		
3 miles north of; NE. ¼ NE. ¼ sec. 28, T. 19 N. R. 100 W., Rock Springs-Sioux City mine, 21-foot bed, 8-foot cut.	5930	B	1	16.65	29.15	49.56	4.64	.28	5.45	59.67	1.08	28.88	6.1	5,737	10,327	341	1126
			2	......	34.97	59.46	5.57	.34	4.32	71.59	1.30	16.88	......	6,884	12,391		
			3	......	37.03	62.97	......	.36	4.57	75.81	1.38	17.88	......	7,290	13,122		
3 miles northwest of; 1 mile southeast of Hallville, sec. 31, T. 19 N., R. 100 W., prospect pit (175 feet in, 5½-foot cut).	5810	B	1	15.14	32.58	47.88	4.40	.62	......	......	......	......	3.7	5,766	10,379	341	1127
			2	......	38.39	56.42	5.19	.73	......	......	......	......	......	6,795	12,231		
			3	......	40.49	59.51	......	.77	......	......	......	......	......	7,167	12,901		
Same (90 feet in, 6½-foot cut)	5951	B	1	13.92	29.50	52.49	4.09	.52	......	......	......	......	6.2	5,776	10,397	341	1127

			2	......	34.27	60.98	4.75	.60	......	......	......	......	......	6,710	12,078		
			3	......	35.98	64.02	......	.63	......	......	......	......	......	7,045	12,681		
Creston, 4 miles west of; SE. ¼ SE. ¼ sec. 14, T. 20 N., R. 93 W., Latham prospect, 80-inch cut	5949	B	1	37.80	25.86	22.30	14.04	1.46	......	......	......	......	28.0	2,436	4,385	341	1127
			2	......	41.58	35.85	22.57	2.35	......	......	......	......	......	3,916	7,049		
			3	......	53.70	46.30	......	3.04	......	......	......	......	......	5,058	9,104		
7 miles east of; NW. ¼ SE. ¼ sec. 10, T. 20 N., R. 91 W., abandoned prospect 100 yards north of Cherokee siding. 5½-foot cut.	5817	B	1	22.22	38.68	30.25	8.85	.66	5.68	50.19	.96	33.66	7.3	4,701	8,462	341	1127
			2	......	49.73	38.89	11.38	.85	4.13	64.53	1.23	17.88	......	6,044	10,879		
			3	......	56.12	43.88	......	.96	4.66	72.82	1.39	20.17	......	6,820	12,276		
Gunn, NW. ¼ SE. ¼ sec. 8, T. 19 N., R. 104 W., Gunn-Quealy "B" mine, Upper Van Dyke bed, 70-inch cut (room 7, off entry 2).	7092	B	1	15.91	33.23	47.13	3.73	1.10	5.99	61.76	1.29	26.13	11.5	6,044	11,879	381	1128
			2	......	39.52	56.04	4.44	1.31	5.02	73.44	1.53	14.26	......	7,187	12,937		
			3	......	41.36	58.64	......	1.37	5.25	76.85	1.60	14.93	......	7,521	13,538		
Same (slope B, 800 feet in)	7091	B	1	15.71	33.50	48.40	2.39	.93	6.11	63.11	1.30	26.16	12.4	6,191	11,144	......	1128
			2	......	39.74	57.42	2.84	1.10	5.17	74.87	1.54	14.48	......	7,345	13,221		
			3	......	40.90	59.10	......	1.13	5.32	77.06	1.58	14.91	......	7,559	13,606		
Same (80 feet in)	7089	B	1	13.43	34.92	49.41	2.24	.95	5.76	64.33	1.21	25.51	9.1	6,365	11,455	......	1128
			2	......	40.33	57.08	2.59	1.10	4.93	74.31	1.40	15.67	......	7,352	13,234		
			3	......	41.40	58.60	......	1.13	5.06	76.29	1.44	16.08	......	7,548	13,586		
Same (10 feet in)	7090	B	1	23.30	31.94	41.49	3.27	.53	5.53	50.17	1.04	39.46	17.3	4,500	8,100	......	1128
			2	......	41.64	54.10	4.26	.69	3.83	65.41	1.36	24.45	......	5,867	10,561		
			3	......	43.49	56.51	......	.72	4.00	68.32	1.42	25.54	......	6,128	11,030		
Same, 300 feet in, main slope, 6-foot cut	5806	B	1	13.65	34.83	50.08	1.44	.98	6.05	64.53	1.18	25.82	4.9	6,590	11,862	381	1128
			2	......	40.34	57.99	1.67	1.13	5.25	74.73	1.37	15.85	......	7,632	13,738		
			3	......	41.03	58.97	......	1.15	5.34	76.00	1.39	16.12	......	7,762	13,972		
Same (Lower Van Dyke bed, 9½° slope, 1,100 feet in, 70-inch cut).	8534	B	1	17.61	31.09	47.50	3.80	1.13	6.24	60.36	1.30	27.17	9.4	5,982	10,768	381	1128
			2	......	37.73	57.66	4.61	1.37	5.19	73.26	1.58	13.99	......	7,260	13,068		
			3	......	39.55	60.45	......	1.44	5.44	76.80	1.66	14.66	......	7,611	13,700		
Same, Gunn-Quealy "A" mine, 200 feet in, main slope, 4½-foot cut. Upper Van Dyke bed.	5805	B	1	13.59	34.99	48.12	3.30	1.02	5.89	64.12	1.27	24.40	5.3	6,396	11,513	341	1128
			2	......	40.49	55.70	3.81	1.18	5.07	74.20	1.47	14.27	......	7,402	13,324		
			3	......	42.09	57.91	......	1.23	5.27	77.14	1.53	14.83	......	7,695	13,851		
Lost Soldier, 1½ miles east of; NE. ¼ NW. ¼ sec. 16, T. 26 N., R. 90 W., abandoned tunnel prospect, 10-foot cut, weathered.	5826	B	1	40.58	26.51	30.21	2.70	.30	6.50	37.38	.94	52.18	26.8	3,213	5,783	341	1128
			2	......	44.61	50.85	4.54	.50	3.35	62.91	1.58	27.12	......	5,407	9,733		
			3	......	46.73	53.27	......	.52	3.51	65.90	1.66	28.41	......	5,664	10,195		
Maxon, 4 miles east of; sec. 25, T. 14 N., R. 104 W., abandoned mine (McCourt), 30 feet in, 6½-foot cut.	6797	B	1	18.61	29.71	48.13	3.55	.41	5.38	57.24	1.28	32.14	15.0	5,365	9,657	381	1128
			2	......	36.50	59.14	4.36	.50	4.07	70.33	1.57	19.17	......	6,592	11,866		
			3	......	38.16	61.84	......	.52	4.26	73.54	1.64	20.04	......	6,893	12,407		
15 miles southeast of; sec. 7 or 8, T. 12 N., R. 101 W., Koskie mine, 50 feet in, 81-inch cut.	6795	B	1	12.43	39.14	36.90	11.53	5.44	5.42	55.78	1.54	20.29	7.4	5,626	10,127	381	1129
			2	......	44.69	42.14	13 17	6.21	4.61	63.70	1.76	10.55	......	6. 424	11,563		
			3	......	51.47	48.53	......	7.15	5.31	73.36	2.03	12.15	......	7,399	13,318		
Point of Rocks, 1 mile east of; SW. ¼ SW. ¼ sec. 26, T. 20 N., R. 101 W., Point of Rocks mine (575 feet in, Lower bed, 61-inch cut).	5352	B	1	16.61	30.24	43.96	9.19	.68	5.28	55.64	1.10	28.11	2.8	5,230	9,414	341	1129
			2	......	36.26	52.72	11.02	.82	4.11	66.72	1.32	16.01	......	6,272	11,290		
			3	......	40.75	59.25	......	.92	4.62	74.98	1.48	18.00	......	7,048	12,686		
Same (225 feet in, Upper bed, 6½-foot cut)	5351	B	1	16.01	33.17	46.43	4.39	.76	5.04	59.36	1.19	29.26	2.4	5,474	9,853	341	1129
			2	......	39.49	55.28	5.23	.90	3.88	70.68	1.42	17.89	......	6,517	11,731		
			3	......	41.67	58.33	......	.95	4.09	74.58	1.50	18.88	......	6,877	12,379		
Same (50 feet in, Upper bed, 6½-foot cut)	7088	B	1	14.26	33.24	47.06	5.44	.74	4.69	54.16	1.35	33.62	7.5	4,630	8,334	......	1129
			2	......	38.77	54.89	6.34	.87	3.63	63.17	1.57	24.42	......	5,400	9,720		
			3	......	41.38	58.62	......	.93	3.88	67.45	1.68	26.06	......	5,766	10,379		
Same (150 feet in, Upper bed, 86-inch cut)	7095	B	1	13.96	31.14	50.81	4.09	.56	5.38	60.29	1.26	28.42	8.6	5,653	10,175	381	1129
			2	......	36.19	59.06	4.75	.65	4.45	70.07	1.46	18.62	......	6,570	11,826		
			3	......	37.99	62.01	......	.68	4.67	73.56	1.53	19.56	......	6,897	12,415		
Same (300 feet north, main heading, Upper 6½-foot bed).	7087	B	1	16.92	28.36	51.32	3.40	.55	5.75	60.61	1.24	28.45	12.0	5,785	10,413	381	1129
			2	......	34.14	61.77	4.09	.66	4.66	72.96	1.49	16.14	......	6,963	12,533		
			3	......	35.59	64.41	......	.69	4.86	76.07	1.55	16.83	......	7,260	13,068		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WYOMING—Continued.																	
SWEETWATER COUNTY—continued.																	
Point of Rocks, Point of Rocks mine—Continued.																	
Same (500 feet north, main heading, Upper 6½-foot bed).	7094	B	1	17.92	29.51	49.30	3.27	0.50	5.87	59.46	1.24	29.66	12.4	5,678	10,220	381	1129
			2	......	35.96	60.06	3.98	.61	4.73	72.44	1.51	16.73	......	6,918	12,452		
			3	......	37.44	62.56	......	.64	4.93	75.44	1.57	17.42	......	7,204	12,967		
Same (1,000 feet north, main heading, 61-inch cut, Upper bed).	7102	B	1	18.83	29.45	48.20	3.52	.55	5.90	58.97	1.21	29.85	13.6	5,619	10,114	381	1129
			2	......	36.28	59.38	4.34	.68	4.69	72.65	1.49	16.15	......	6,923	12,461		
			3	......	37.93	62.07	......	.71	4.90	75.95	1.56	16.88	......	7,237	13,027		
Rock Springs, sec. 35, T. 19 N., R. 105 W., Union Pacific No. 1 mine, in room 66; No. 1 bed, 83-inch cut.	5358	B	1	8.53	35.60	50.39	5.48	.78	5.36	66.15	1.19	21.04	2.3	6,574	11,833	341	1130
			2	......	38.92	55.09	5.99	.85	4.82	72.32	1.30	14.72	......	7,187	12,937		
			3	......	41.40	58.60	......	.90	5.13	76.93	1.38	15.66	......	7,645	13,761		
1± mile nearly east of; sec. 26, T. 19 N., R. 105 W., Sweetwater No. 2 mine, No. 7 bed, 5½-foot cut.	5359	B	1	9.76	32.62	48.58	9.04	.90	5.52	63.76	1.12	19.66	2.8	6,280	11,304	341	1130
			2	......	36.15	53.83	10.02	1.00	4.92	70.66	1.24	12.16	......	6,959	12,526		
			3	......	40.18	59.82	......	1.11	5.47	78.53	1.38	13.51	......	7,734	13,921		
Same, Union Pacific old No. 5 mine, 20 feet in, No. 5 bed, 38-inch cut.	5357	B	1	10.94	30.80	42.70	15.56	1.01	4.83	53.95	.87	23.78	1.5	5,214	9,385	341	1130
			2	......	34.58	47.95	17.47	1.13	4.05	60.58	.98	15.79	......	5,854	10,537		
			3	......	41.90	58.10	......	1.37	4.91	73.40	1.19	19.13	......	7,093	12,767		
1½ miles northeast of; sec. 25, T. 19 N., R. 105 W., Union Pacific No. 3 mine, No. 7 bed, 29-inch cut.	5363	B	1	14.43	33.30	47.10	5.17	.99	5.55	61.47	1.14	25.68	4.2	6,086	10,955	341	1131
			2	......	38.92	55.03	6.05	1.15	4.59	71.83	1.33	15.05	......	7,113	12,803		
			3	......	41.43	58.57	......	1.22	4.89	76.46	1.42	16.01	......	7,571	13,628		
Same, Union Pacific No. 8 mine, No. 7 bed, 90½-inch cut.	5361	B	1	14.51	34.17	47.24	4.08	1.02	......	......	......	......	4.1	6,167	11,101	341	1131
			2	......	39.97	55.26	4.77	1.19	......	......	......	......	......	7,214	12,985	381	
			3	......	41.97	58.03	......	1.25	......	......	......	......	......	7,575	13,635		
Same, Union Pacific No. 9 mine, No. 7 bed, in room 23, 7-foot cut.	5362	B	1	13.51	33.62	49.17	3.70	1.46	......	......	......	......	3.8	6,271	11,288	341	1131
			2	......	38.87	56.85	4.28	1.69	......	......	......	......	......	7,249	13,048	381	
			3	......	40.61	59.39	......	1.77	......	......	......	......	......	7,573	13,631		
Same, Union Pacific No. 10 mine, No. 7 or Rock Springs bed (5,200 feet north of slope, 90-inch cut).	3164	A	1	12.41	36.57	48.50	2.52	.80	......	......	......	......	4.0	6,622	11,920	332	1132
			2	......	41.75	55.37	2.88	.91	......	......	......	......	......	7,560	13,608	336	
			3	......	42.99	57.01	......	.94	......	......	......	......	......	7,784	14,011	18	
Same (7,000 feet north of slope, 86-inch cut)	3165	A	1	13.10	34.97	48.59	3.34	1.04	......	......	......	......	4.4	......	......	332	1132
			2	......	40.24	55.92	3.84	1.20	......	......	......	......	......	......	......		
			3	......	41.85	58.15	......	1.25	......	......	......	......	......	......	......		
Same (run of mine)	3213	C	1	11.64	36.37	48.58	3.41	.81	5.72	66.08	1.43	22.55	6.0	6,538	11,768	332	......
			2	......	41.16	54.98	3.86	.92	5.01	74.78	1.62	13.81	......	7,399	13,318		
			3	......	42.81	57.19	......	.95	5.21	77.79	1.68	14.37	......	7,697	13,855		
			4	......	......	......	......	......	5.27	78.54	1.70	14.49	......	7,749	13,948		

Same (room 11, north entry 6, 5¾-foot cut).....	5360	B	1	13.01	34.00	49.80	3.19	.75	5.91	64.92	1.20	24.03	3.4	6,403	11,525	341	1132
			2	....	39.08	57.25	3.67	.86	5.13	74.63	1.38	14.33	....	7,361	13,250		
			3	....	40.57	59.43	....	.89	5.33	77.47	1.43	14.88	....	7,641	13,754		
1 mile southwest of; sec. 2, T. 18 N., R. 105 W., Blairtown mine, 1,100 feet in, No. 3 bed, 5⅓-foot cut.	6772	B	1	11.50	36.84	50.04	1.62	.75	5.94	68.29	1.16	22.24	7.1	6,791	12,224	381	1132
			2	....	41.63	56.54	1.83	.85	5.27	77.16	1.31	13.58	....	7,673	13,811		
			3	....	42.40	57.60	....	.87	5.37	78.60	1.33	13.83	....	7,816	14,069		
3 miles north of; sec. 22, T. 19 N., R. 105 W., old No. 6 mine, 300 feet in, main slope, No. 6 bed (6⅔-foot cut).	6773	B	1	14.91	32.91	47.76	4.42	.40	5.46	61.09	1.20	27.43	9.1	5,779	10,402	.....	1133
			2	....	38.68	56.13	5.19	.47	4.47	71.79	1.41	16.67	....	6,791	12,224		
			3	....	40.80	59.20	....	.50	4.71	75.72	1.49	17.58	....	7,162	12,892		
Same (6⅓-foot cut)................................	6042	B	1	13.14	30.61	51.88	4.37	.42	5.48	61.34	1.35	27.04	6.1	5,864	10,555	341	1133
			2	....	35.24	59.73	5.03	.49	4.62	70.62	1.56	17.68	....	6,751	12,152		
			3	....	37.11	62.89	....	.52	4.86	74.36	1.64	18.62	....	7,109	12,796		
3 miles south of; sec. 11, T. 18 N., R. 105 W., No. 3 mine, end of entry 5, No. 7 12-foot bed, 62½-inch cut.	5364	B	1	9.01	35.75	52.61	2.63	.75	....	....	....	....	2.7	6,868	12,362	341	1133
			2	....	39.29	57.82	2.89	.82	....	....	....	....	....	7,549	13,588		
			3	....	40.46	59.54	....	.84	....	....	....	....	....	7,774	13,993		
Same, No. 5 mine, dip slope 2, room 5, back entry, No. 7 bed, 7¾-foot cut.	5365	B	1	10.46	36.41	50.90	2.23	.87	5.37	68.98	1.32	21.23	4.0	6,817	12,271	341	1133
			2	....	40.66	56.85	2.49	.97	4.70	77.04	1.47	13.33	....	7,613	13,703		
			3	....	41.70	58.30	....	.99	4.82	79.00	1.51	13.68	....	7,807	14,053		
Same, No. 4 mine, room 2, No. 7 bed, 74½-inch cut.	5366	B	1	9.75	34.32	52.50	3.43	1.00	5.77	68.39	1.22	20.19	3.5	6,810	12,258	341	1133
			2	....	38.03	58.17	3.80	1.11	5.20	75.79	1.35	12.75	....	7,546	13,583		
			3	....	39.53	60.47	....	1.15	5.41	78.78	1.40	13.26	....	7,844	14,119		
3 miles southwest of; sec. 4, T. 18 N., R. 105 W., prospect pit, 50 feet in, 96-inch cut.	6771	B	1	19.84	35.68	37.78	6.70	.67	5.11	48.14	1.33	38.05	11.2	4,349	7,828	381	1134
			2	....	44.51	47.13	8.36	.84	3.63	60.05	1.66	25.46	....	5,425	9,765		
			3	....	48.57	51.43	....	.92	3.96	65.53	1.81	27.78	....	5,920	10,656		
3½ miles north of; sec. 10, T. 19 N., R. 105 W., prospect pit, 100 feet in, east of Interstate mine, 53½-inch cut.	6775	B	1	21.00	31.34	40.06	7.60	.79	5.38	49.55	1.04	35.64	13.7	4,556	8,201	381	1134
			2	....	39.67	50.71	9.62	1.00	3.86	62.72	1.32	21.48	....	5,767	10,381		
			3	....	43.89	56.11	....	1.11	4.27	69.39	1.46	23.77	....	6,381	11,486		
Same, Interstate mine, 54 feet west by 40 feet south of opening, Interstate bed, 77-inch cut.	6774	B	1	13.37	36.29	41.86	8.48	.83	5.90	59.84	1.15	23.80	8.4	5,813	10,463	381	1134
			2	....	41.89	48.32	9.79	.96	5.09	69.07	1.33	13.76	....	6,710	12,078		
			3	....	46.44	53.56	....	1.06	5.64	76.57	1.47	15.26	....	7,438	13,388		
10 miles south of; sec. 14, T. 17 N., R. 105 W., Kappes mine, 40 feet in, 4-foot bed, 3½-foot cut.	6791	B	1	24.20	32.14	39.96	3.70	.49	5.57	49.19	1.07	39.98	18.4	4,384	7,891	381	1135
			2	....	42.40	52.72	4.88	.64	3.80	64.90	1.41	24.37	....	5,784	10,411		
			3	....	44.58	55.42	....	.67	3.99	68.23	1.48	25.63	....	6,081	10,946		
Same, Kent mine, 75 feet in, 3½-foot cut........	6799	B	1	13.10	35.55	45.63	5.72	1.40	5.94	62.85	1.23	22.86	8.3	6,173	11,111	381	1135
			2	....	40.91	52.51	6.58	1.61	5.16	72.32	1.42	12.91	....	7,103	12,785		
			3	....	43.79	56.21	....	1.72	5.52	77.41	1.52	13.83	....	7,603	13,685		
11 miles northeast of; sec. 34, T. 21 N., R. 104 W., prospect pit (30 feet in, 4⅔-foot cut).	5372	B	1	16.39	36.78	38.62	8.21	.95	4.79	50.09	1.24	34.72	4.9	4,511	8,120	341	1135
			2	....	43.99	46.20	9.81	1.14	3.55	59.91	1.48	24.11	....	5,395	9,711		
			3	....	48.78	51.22	....	1.26	3.94	66.43	1.64	26.73	....	5,982	10,768		
Same (6 feet in, 4-foot cut).....................	5373	B	1	13.69	38.28	44.61	3.42	.59	4.73	55.13	1.24	34.89	2.7	4,937	8,887	341	1135
			2	....	44.35	51.68	3.97	.69	3.71	63.88	1.43	26.32	....	5,720	10,296		
			3	....	46.18	53.82	....	.72	3.86	66.52	1.49	27.41	....	5,956	10,721		
12 miles north of; SE. ¼ NE. ¼ sec. 30, T. 21 N., R. 104 W., prospect pit, 3 feet in, 18-inch cut.	5367	B	1	26.28	31.28	26.23	16.21	1.06	....	....	....	....	6.9	3,311	5,960	341	1136
			2	....	42.43	35.58	21.99	1.44	....	....	....	....	....	4,492	8,086		
			3	....	54.39	45.61	....	1.85	....	....	....	....	....	5,758	10,364		
12 miles south of; sec. 24, T. 17 N., R. 105 W., Miller mine, 3½-foot bed, 41½-inch cut.	6796	B	1	12.78	34.79	49.94	2.49	.76	5.84	64.78	1.30	24.83	9.2	6,312	11,362	381	1136
			2	....	39.89	57.26	2.85	.87	5.07	74.27	1.49	15.45	....	7,237	13,027		
			3	....	41.06	58.94	....	.90	5.22	76.45	1.53	15.90	....	7,449	13,408		
23 miles south of; sec. 13, T. 15 N., R. 105 W., Menkinney mine, 4⅔-foot cut, 4½-foot bed.	6794	B	1	8.08	38.76	42.52	10.64	1.01	5.59	61.70	1.33	19.73	4.5	6,181	11,126	381	1136
			2	....	42.17	46.25	11.58	1.10	5.10	67.12	1.45	13.65	....	6,724	12,103		
			3	....	47.69	52.31	....	1.24	5.77	75.91	1.64	15.44	....	7,605	13,689		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WYOMING—Continued.																	
SWEETWATER COUNTY—continued.																	
Superior, sec. 20, T. 21 N., R. 102 W., Superior C mine, 1,400 feet in, 7⅓-foot bed.	5596	B	1	13.15	33.07	48.87	4.91	1.15	......	......	......	......	5.4	6,311	11,360	341	1137
			2	......	38.08	56.27	5.65	1.32	......	......	......	......	......	7,267	13,081		
			3	......	40.36	59.64	......	1.40	......	......	......	......	......	7,702	13,864		
Same, 1,845 feet in, main entry, 8-foot cut.....	5695	B	1	13.67	32.43	51.00	2.90	.72	5.83	65.93	1.19	23.43	6.3	6,424	11,563	341	1137
			2	......	37.57	59.07	3.36	.83	4.99	76.37	1.38	13.07	......	7,441	13,394		
			3	......	38.88	61.12	......	.86	5.16	79.03	1.43	13.52	......	7,700	13,860		
Same, room 1, off north level 4, 1,500 feet northeast from drift mouth, 7⅝-foot cut.	7474	A	1	13.41	32.48	49.70	4.41	1.01	......	......	......	......	8.4	......	......	341	1137
			2	......	37.51	57.40	5.09	1.17	......	......	......	......	......	......	......		
			3	......	39.52	60.48	......	1.23	......	......	......	......	......	......	......		
Same, Superior D mine, 380 feet in, 8-foot cut, No. 1 bed.	5598	B	1	13.76	31.52	50.52	4.20	1.30	5.70	63.78	1.09	23.93	5.5	6,348	11,426	341	1137
			2	......	36.55	58.58	4.87	1.51	4.84	73.96	1.26	13.56	......	7,361	13,250		
			3	......	38.42	61.58	......	1.59	5.09	77.75	1.32	14.25	......	7,738	13,928		
Same, 400 feet in, main drift, 8-foot cut, No. 1 bed.	5786	B	1	14.63	34.14	47.69	3.54	1.01	5.81	63.45	1.33	24.86	6.0	6,321	11,378	341	1137
			2	......	39.99	55.86	4.15	1.18	4.90	74.32	1.56	13.89	......	7,404	13,327		
			3	......	41.72	58.28	......	1.23	5.11	77.54	1.63	14.49	......	7,725	13,905		
Same, prospect pit on west side of valley, No. 3 bed, 7-foot cut.	6043	B	1	18.35	31.55	48.46	1.64	.52	5.49	57.37	1.23	33.75	12.5	5,374	9,673	341	1138
			2	......	40.23	57.77	2.00	.63	4.23	70.25	1.50	21.39	......	6,582	11,848		
			3	......	41.05	58.95	......	.64	4.32	71.68	1.53	21.83	......	6,716	12,089		
Sec. 27, T. 21 N., R. 102 W., Superior A mine, face of dip room, off north entry 2, 800 feet northeast of entrance, No. 7 bed, 6-foot 2¼-inch cut).	7475	A	1	12.03	32.57	52.04	3.36	.84	......	......	......	......	7.2	......	......	341	1138
			2	......	37.03	59.15	3.82	.95	......	......	......	......	......	......	......		
			3	......	38.50	61.50	......	.99	......	......	......	......	......	......	......		
Same, 6½-foot cut in entry 2, No. 1 bed........	5926	B	1	10.55	34.79	50.42	4.24	.86	5.66	67.12	1.27	20.85	4.8	6,756	12,161	341	1138
			2	......	38.89	56.37	4.74	.96	5.02	75.04	1.42	12.82	......	7,553	13,595		
			3	......	40.83	59.17	......	1.01	5.27	78.78	1.49	13.45	......	7,929	14,272		
Same, 1,000 feet in, main drift, No. 7 bed, 83-inch cut.	5928	B	1	12.70	32.82	49.94	4.54	.76	5.81	65.14	1.12	22.63	5.6	6,512	11,722	341	1138
			2	......	37.59	57.21	5.20	.87	5.04	74.62	1.28	12.99	......	7,459	13,426		
			3	......	39.65	60.35	......	.92	5.32	78.72	1.35	13.69	......	7,868	14,162		
2 miles north of; NE. ¼ NE. ¼ sec. 10, T. 21 N., R. 102 W., prospect pit (60 feet in, lower 75 inches of 88½-inch bed).	5597	B	1	25.70	27.70	40.69	5.91	.29	5.17	49.10	1.07	38.46	10.7	4,331	7,796	341	1139
			2	......	37.28	54.77	7.95	.39	3.11	66.08	1.44	21.03	......	5,829	10,492		
			3	......	40.50	59.50	......	.42	3.38	71.79	1.56	22.85	......	6,333	11,399		
Same (50 feet in, 78½-inch bed, 63-inch cut)	5599	B	1	23.56	30.20	40.75	5.49	.33	......	......	......	......	9.3	4,267	7,681	341	1139
			2	......	39.51	53.31	7.18	.43	......	......	......	......	......	5,582	10,048		
			3	......	42.57	57.43	......	.46	......	......	......	......	......	6,014	10,825		

2 miles northeast of; sec. 29, T. 21 N., R. 102 W., B mine, No. 1 (upper) bed, near face of air course, 100-inch bed.	10067	B	1	12.94	37.76	46.77	2.53	.90	......	......	......	......	7.5	......	......	......	1139
			2	......	43.37	53.72	2.91	1.03	......	......	......	......	......	......	......		
			3	......	44.67	55.33	......	1.06	......	......	......	......	......	......	......		
2 miles south of; sec. 28, T. 21 N., R. 102 W., Superior B mine, 600 feet in, No. 7 bed, 6-foot cut.	5785	B	1	10.23	34.11	51.10	4.56	1.15	5.77	66.87	1.49	20.16	5.0	6,682	12,028	341	1140
			2	......	38.00	56.92	5.08	1.28	5.16	74.49	1.66	12.33	......	7,443	13,397		
			3	......	40.03	59.97	......	1.35	5.44	78.48	1.75	12.98	......	7,841	14,114		
5 miles northwest of; sec. 3, T. 21 N., R. 103 W., prospect pit (270 feet in, 96½-inch cut).	5698	B	1	13.81	31.72	49.50	4.97	.88	5.77	61.92	1.14	25.32	4.9	5,996	10,793	341	1140
			2	......	36.80	57.43	5.77	1.02	4.92	71.84	1.32	15.13	......	6,957	12,523		
			3	......	39.05	60.95	......	1.08	5.22	76.24	1.40	16.06	......	7,383	13,289		
Same (90 feet in, 10-foot bed, 6-foot cut, damp)..	5696	B	1	16.02	33.63	47.60	2.75	.94	6.11	62.29	1.08	26.83	6.2	6,027	10,849	341	1140
			2	......	40.04	56.69	3.27	1.12	5.16	74.18	1.28	14.99	......	7,176	12,917		
			3	......	41.39	58.61	......	1.16	5.33	76.69	1.32	15.50	......	7,419	13,354		
6 miles northwest of; sec. 24, T. 22 N., R. 103 W., prospect pit, 15 feet in, 7-foot 10-inch cut.	5348	B	1	23.03	29.11	41.60	6.26	.53	5.23	50.45	1.15	36.38	4.7	4,475	8,055	341	1140
			2	......	37.82	54.05	8.13	.69	3.47	65.54	1.49	20.68	......	5,814	10,465		
			3	......	41.17	58.83	......	.75	3.78	71.34	1.62	22.51	......	6,329	11,392		
6½ miles northeast of; sec. 9, T. 21 N., R. 103 W., prospect pit, 250 feet in, 6½-foot cut.	5697	B	1	13.63	31.65	48.78	5.94	.78	5.48	61.31	1.33	25.16	5.0	5,850	10,530	341	1141
			2	......	36.64	56.48	6.88	.90	4.60	70.99	1.54	15.09	......	6,773	12,191		
			3	......	39.35	60.65	......	.97	4.94	76.24	1.65	16.20	......	7,274	13,093		
7 miles northwest of; NW. ¼ sec. 8, T. 21 N., R. 103 W., prospect pit, 100 feet in, 5½-foot cut, probably weathered.	5699	B	1	17.38	35.09	43.47	4.06	.87	......	......	......	......	5.3	4,633	8,339	341	1141
			2	......	42.47	52.62	4.91	1.05	......	......	......	......	......	5,608	10,094		
			3	......	44.66	55.34	......	1.10	......	......	......	......	......	5,897	10,615		
7½ miles northwest of; sec. 5, T. 21 N., R. 103 W., prospect pit, 150 feet in, upper 5 feet of 6-foot bed.	5694	B	1	13.01	32.83	51.56	2.60	.71	5.25	64.54	1.20	25.70	4.3	6,292	11,326	341	1141
			2	......	37.74	59.27	2.99	.82	4.37	74.19	1.38	16.25	......	7,233	13,019		
			3	......	38.90	61.10	......	.85	4.50	76.48	1.42	16.75	......	7,456	13,421		
8 miles northwest of; sec. 12, T. 21 N., R. 104 W., prospect pit, 10 feet in, 53-inch cut.	5371	B	1	28.01	32.04	36.06	3.89	.70	......	......	......	......	15.9	3,963	7,133	341	1141
			2	......	44.50	50.10	5.40	.79	......	......	......	......	......	5,504	9,907		
			3	......	47.04	52.96	......	.84	......	......	......	......	......	5,818	10,472		
9 miles northwest of; sec. 6, T. 22 N., R. 103 W., prospect pit, 20 feet in, 6-foot bed, 5½-foot cut.	5950	B	1	12.28	31.92	47.09	8.71	.57	......	......	......	......	4.2	4,978	8,960	341	1141
			2	......	36.39	53.68	9.93	.65	......	......	......	......	......	5,675	10,215		
			3	......	40.40	59.60	......	.72	......	......	......	......	......	6,300	11,340		
9 miles southwest of; sec. 34, T. 21 N., R. 104 W., prospect pit, 20 feet in, 5-foot cut from upper part of bed, lower part of bed under water.	5376	B	1	26.82	33.42	35.61	4.15	.37	5.39	46.18	1.00	42.91	8.7	4,001	7,202	341	1142
			2	......	45.67	48.66	5.67	.51	3.29	63.10	1.37	26.06	......	5,467	9,841		
			3	......	48.41	51.59	......	.54	3.49	66.89	1.45	27.63	......	5,796	10,433		
9 miles west of; sec. 23, T. 21 N., R. 104 W., prospect pit, 20 feet in, 4-foot cut.	5370	B	1	17.71	28.17	51.80	2.32	.64	......	......	......	......	6.1	5,446	9,803	341	1142
			2	......	34.24	62.94	2.82	.78	......	......	......	......	......	6,619	11,914		
			3	......	35.24	64.76	......	.80	......	......	......	......	......	6,812	12,262		
10 miles northwest of; sec. 6, T. 22 N., R. 103 W., prospect pit, 20 feet in, 58-inch cut.	5353	B	1	13.34	36.54	41.59	8.53	.46	4.45	59.45	1.13	25.98	.9	5,632	10,138	341	1142
			2	......	42.16	48.00	9.84	.53	3.43	68.60	1.30	16.30	......	6,499	11,698		
			3	......	46.78	53.24	......	.59	3.80	76.08	1.44	18.09	......	7,208	12,974		
11 miles northwest of; NE. ¼ NE. ¼ sec. 6, T. 22 N., R. 103 W., prospect pit, 20 feet in, 5½-foot cut.	5347	B	1	13.27	18.89	58.82	9.02	.95	......	......	......	......	1.6	5,276	9,497	341	1142
			2	......	21.78	67.82	10.40	1.10	......	......	......	......	......	6,083	10,949		
			3	......	24.31	75.69	......	1.23	......	......	......	......	......	6,788	12,220		
Same, 70-inch cut	5349	B	1	11.49	33.28	43.51	11.72	.62	......	......	......	......	.2	4,679	8,422	341	1143
			2	......	37.60	49.16	13.24	.70	......	......	......	......	......	5,286	9,515		
			3	......	43.34	56.66	......	.81	......	......	......	......	......	6,093	10,067		
11 miles west of; sec. 14, T. 21 N., R. 104 W., prospect pit, 100 feet in, 7½-foot cut.	5368	B	1	14.00	37.83	45.00	3.17	.48	......	......	......	......	3.5	5,151	9,272	341	1143
			2	......	43.99	52.33	3.68	.56	......	......	......	......	......	5,990	10,782		
			3	......	45.67	54.33	......	.58	......	......	......	......	......	6,219	11,194		
11½ miles west of; sec. 10, T. 21 N., R. 104 W., pros pect pit, 20 feet in, 3-foot cut, damp.	5369	B	1	21.22	33.30	43.80	1.68	.32	5.56	54.42	1.11	36.91	12.3	5,028	9,050	341	1143
			2	......	42.27	55.60	2.13	.41	4.06	69.08	1.41	22.91	......	6,382	11,488		
			3	......	43.19	56.81	......	.42	4.15	70.59	1.44	23.40	......	6,521	11,738		

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WYOMING—Continued.																	
SWEETWATER COUNTY—continued.																	
Superior—Continued.																	
12 miles northwest of; sec. 34, T. 22 N., R. 104 W., prospect pit, 40 feet in, 4½-foot cut.	5350	B	1	26.26	32.13	37.47	4.14	0.39	5.46	47.16	1.23	41.62	11.7	4,067	7,321	341	1144
			2	......	43.58	50.80	5.62	.53	3.45	63.96	1.66	24.78	......	5,516	9,929		
			3	......	46.17	53.83	......	.56	3.66	67.77	1.76	26.25	......	5,844	10,519		
12 miles west of; SW. ¼ NE. ¼ sec. 17, T. 21 N., R. 104 W., surface exposure, 4-foot cut.	5375	B	1	31.37	29.60	28.91	10.12	1.27	5.43	37.03	.79	45.36	14.2	3,130	5,634	341	1144
			2	......	43.13	42.12	14.75	1.85	2.83	53.96	1.15	25.46	......	4,561	8,210		
			3	......	50.59	49.41	......	2.17	3.32	63.30	1.35	29.86	......	5,350	9,630		
12½ miles west of; NW. ¼ SE. ¼ sec. 29, T. 21 N., R. 104 W., prospect pit, 5½-foot cut.	5374	B	1	22.14	31.34	41.85	4.67	.80	5.55	52.40	.93	35.65	12.5	4,868	8,762	341	1144
			2	......	40.25	53.75	6.00	1.03	3.97	67.30	1.19	20.51	......	6,252	11,254		
			3	......	42.82	57.18	......	1.10	4.22	71.59	1.27	21.82	......	6,651	11,972		
13 miles northwest of; sec. 21, T. 23 N., R. 103 W., Hooten prospect (abandoned), 60 feet in, Crookston bed, 5-foot cut.	5804	B	1	14.75	31.98	48.99	4.28	.43	5.05	58.74	1.12	30.38	4.8	5,478	9,860	341	1144
			2	......	37.51	57.47	5.02	.50	4.00	68.90	1.31	20.27	......	6,426	11,567		
			3	......	39.49	60.51	......	.53	4.21	72.54	1.38	21.34	......	6,766	12,179		
15 miles northwest of; sec 24, T. 23 N., R. 104 W., Hooten mine, 65 feet in, 8-foot bed (lower 3 feet).	5803	B	1	20.33	31.48	43.03	5.21	.98	5.92	55.97	1.12	30.80	9.7	5,495	9,891	341	1144
			2	......	39.45	54.01	6.54	1.28	4.59	70.25	1.41	15.98	......	6,897	12,415		
			3	......	42.21	57.79	......	1.32	4.91	75.17	1.51	17.09	......	7,380	13,284		
Same (upper 5 feet)	5802	B	1	22.52	30.83	41.83	4.82	.96	5.82	52.44	.96	35.00	10.7	5,006	9,011	341	1144
			2	......	39.79	53.99	6.22	1.24	4.28	67.68	1.24	19.34	......	6,461	11,630		
			3	......	42.43	57.57	......	1.32	4.56	72.17	1.32	20.63	......	6,889	12,400		
Sweetwater, Sweetwater mine, No. 7 bed, 7,900 feet north (entry 10, 6-foot cut).	945D	A	1	8.80	38.90	49.46	2.84	.99	......	......	......	......	1.4	......	......	5	1145
			2	......	42.65	54.24	3.11	1.09	......	......	......	......	......	......	......		
			3	......	44.02	55.98	......	1.12	......	......	......	......	......	......	......		
Same (room off entry 4½, 71-inch cut)	946D	A	1	9.03	38.43	49.91	2.63	.88	......	......	......	......	1.4	6,935	12,483	5	1145
			2	......	42.24	54.87	2.89	.97	......	......	......	......	......	7,623	13,721		
			3	......	43.50	56.50	......	1.00	......	......	......	......	......	......	......		
Same (run of mine)	973D	C	1	8.64	38.47	48.30	4.59	1.09	5.53	69.55	1.53	17.71	.4	6,764	12,175	......	......
			2	......	42.11	52.87	5.02	1.19	5.00	76.13	1.67	10.99	......	7,404	13,327		
			3	......	44.34	55.66	......	1.25	5.26	80.15	1.76	11.57	......	7,795	14,032		
Sycamore, sec. 23, T. 20 N., R. 102 W., outcrop in railroad cut; 4-foot bed, weathered.	5813	B	1	27.38	30.34	37.74	4.54	.77	5.81	45.12	1.26	42.50	9.5	4,103	7,385	341	1145
			2	......	41.78	51.97	6.25	1.06	3.81	62.13	1.74	25.01	......	5,650	10,170		
			3	......	44.57	55.43	......	1.13	4.06	66.27	1.86	26.68	......	6,027	11,285		
1 mile west of; sec. 29, T. 20 N., R. 102 W., surface outcrop, badly weathered, 28-inch cut.	5809	B	1	33.79	29.35	30.71	6.15	.64	5.86	39.29	1.16	46.90	12.2	3,356	6,042	341	1145
			2	......	44.33	46.37	9.30	.97	3.18	59.34	1.75	25.46	......	5,068	9,122		
			3	......	48.87	51.13	......	1.07	3.51	65.42	1.93	28.07	......	5,587	10,057		

3 miles northeast of; sec. 16, T. 20 N., R. 102 W., prospect pit, 5 feet in, 3½-foot cut.	5814	B	1	29.50	30.59	35.16	4.75	.37	5.86	44.50	1.10	43.42	10.9	3,772	6,790	341	1145
			2	....	48.39	49.87	6.74	.52	3.66	63.12	1.56	24.40	....	5,350	9,630		
			3	....	46.53	53.47	....	.56	3.92	67.68	1.67	26.17	....	5,737	10,327		
3 miles northwest of; sec. 18, T. 20 N., R. 102 W., prospect pit, 6 feet in, 19-inch cut.	5812	B	1	22.93	33.69	39.35	4.03	.74	5.61	48.71	1.26	39.65	8.0	4,416	7,949	341	1146
			2	....	43.71	51.06	5.28	.96	3.97	63.20	1.63	25.01	....	5,730	10,314		
			3	....	46.12	53.88	....	1.01	4.19	66.69	1.72	26.39	....	6,046	10,883		
UINTA COUNTY.																	
Almy, SE. ¼ sec. 30, T. 16 N., R. 120 W., No. 5 mine, 3,000 feet from mouth, room 5, entry 12, lower 8 feet of 24-foot Main Almy bed.	2325	B	1	14.43	36.81	41.54	7.22	.21	5.37	59.97	1.15	26.08	6.7	5,804	10,447	285	
			2	....	43.02	48.54	8.44	.25	4.41	70.08	1.34	15.48	....	6,783	12,209	*56*	1146
			3	....	46.98	53.02	....	.27	4.81	76.54	1.47	16.91	....	7,408	13,334		
			4	....	....	....	....	....	4.82	76.74	1.47	16.97	....	7,422	13,360		
7 miles north of; NW. ¼ sec. 33, T. 17 N., R. 120 W., Michigan-Wyoming mine, 40 feet in, Almy bed, 43-inch cut.	2326	B	1	14.11	35.34	34.40	16.15	4.45	5.30	48.91	.82	24.37	6.9	4,898	8,816	285	1146
			2	....	41.15	40.05	18.80	5.18	4.34	56.95	.95	13.78	....	5,703	10,265	*56*	
			3	....	50.67	49.33	....	6.38	5.35	70.13	1.18	16.96	....	7,023	12,641		
			4	....	....	....	....	....	5.71	74.92	1.26	18.11	....	7,348	13,226		
Bondurant, 2 miles southwest of; NW. ¼ NE. ¼ sec. 31, T. 38 N., R. 113 W., Fall River bed, 1-foot cut, weathered.	3892	B	1	19.02	39.68	27.83	13.47	2.60	5.26	48.01	1.28	29.38	8.7	4,662	8,392	316	1147
			2	....	49.00	34.37	16.63	3.21	3.89	59.29	1.58	15.40	....	5,757	10,363		
			3	....	58.78	41.22	....	3.85	4.67	71.11	1.90	18.47	....	6,905	12,429		
			4	....	....	....	....	....	4.85	73.96	1.97	19.22	....	7,091	12,764		
2½ miles southwest of; NW. ¼ SE. ¼ sec. 31, T. 38 N., R. 113 W., Fall River bed, 3-foot surface cut, weathered.	3893	B	1	16.51	32.67	37.57	13.25	4.35	5.15	49.38	.99	26.88	4.3	4,757	8,563	316	1147
			2	....	39.13	45.00	15.87	5.21	3.98	59.14	1.19	14.61	....	5,698	10,256		
			3	....	46.51	53.49	....	6.19	4.73	70.30	1.41	17.37	....	6,773	12,191		
			4	....	....	....	....	....	5.04	74.94	1.50	18.52	....	7,071	12,728		
13 miles southwest of; NW. ¼ NW. ¼ sec. 33, T. 37 N., R. 115 W., prospect pit, 5½-foot bed, 32-inch cut.	4303	B	1	5.49	35.88	55.51	3.12	.91	5.26	74.15	1.26	15.30	3.5	7,539	13,570	316	1147
			2	....	37.96	58.74	3.30	.96	4.92	78.46	1.33	11.03	....	7,977	14,359		
			3	....	39.25	60.75	....	.99	5.09	81.14	1.38	11.40	....	8,249	14,848		
14 miles southwest of; NE. ¼ NE. ¼ sec. 32, T. 37 N., R. 115 W., prospect pit on Willow Creek, 2-foot cut, weathered.	4300	B	1	3.49	35.90	50.59	10.02	.92	5.09	69.67	1.01	13.29	1.6	7,150	12,870	316	1147
			2	....	37.20	52.42	10.38	.95	4.87	72.19	1.05	10.56	....	7,409	13,336		
			3	....	41.51	58.49	....	1.06	5.43	80.55	1.17	11.79	....	8,267	14,881		
			4	....	....	....	....	....	5.49	81.42	1.18	11.91	....	8,331	14,996		
15 miles southwest of; SE. ¼ SW. ¼ sec. 32, T. 37 N., R. 115 W., prospect pit, 2½-foot cut, weathered.	4006	B	1	14.36	32.48	48.73	4.43	3.56	5.33	60.67	1.30	24.71	5.7	5,724	10,303	316	1147
			2	....	37.93	56.89	5.18	4.16	4.36	70.84	1.52	13.94	....	6,684	12,081		
			3	....	40.00	60.00	....	4.38	4.61	74.71	1.60	14.70	....	7,049	12,688		
			4	....	....	....	....	....	4.82	78.13	1.67	15.38	....	7,269	13,084		
15½ miles southwest of; NW. ¼ NE. ¼ sec. 11, T. 36 N., R. 116 W., surface prospect on Willow Creek, 27-inch cut.	4005	B	1	21.60	29.16	42.34	6.90	.99	5.49	53.04	1.07	32.51	10.7	4,962	8,932	316	1148
			2	....	37.19	54.01	8.80	1.26	3.94	67.65	1.36	16.99	....	6,329	11,392		
			3	....	40.78	59.22	....	1.38	4.32	74.18	1.50	18.62	....	6,940	12,492		
			4	....	....	....	....	....	4.38	75.22	1.52	18.88	....	7,006	12,611		
16 miles southwest of; SW. ¼ NE. ¼ sec. 11, T. 36 N., R. 116 W., 100-foot drift tunnel on Willow Creek, 6-foot bed, 4½-foot cut.	4299	B	1	3.67	36.30	56.59	3.44	.70	5.66	77.17	.84	12.19	1.3	7,613	13,703	316	1148
			2	....	37.68	58.75	3.57	.73	5.45	80.11	.87	9.27	....	7,903	14,225		
			3	....	39.08	60.92	....	.75	5.65	83.08	.90	9.62	....	8,195	14,751		
			4	....	....	....	....	....	5.69	83.71	.91	9.69	....	8,241	14,834		
16 miles west of; SW. ¼ SE. ¼ sec. 1, T. 37 N., R. 116 W., prospect pit, 3-foot cut, weathered.	4003	B	1	10.06	32.94	53.30	3.70	.38	5.27	66.94	1.29	22.42	4.6	6,464	11,635	316	1148
			2	....	36.62	59.27	4.11	.42	4.61	74.43	1.43	15.00	....	7,187	12,937		
			3	....	38.20	61.80	....	.44	4.81	77.62	1.50	15.63	....	7,495	13,491		
			4	....	....	....	....	....	4.83	77.96	1.50	15.71	....	7,518	13,532		
16 miles west of; SW. ¼ SE. ¼ sec. 1, T. 37 N., R. 116 W., prospect pit on Willow Creek (lower bed,[a] 2-foot cut).	4302	B	1	6.81	33.42	53.59	6.18	.62	4.81	69.45	1.52	17.42	2.3	6,753	12,155	316	1149
			2	....	35.86	57.51	6.63	.67	4.35	74.52	1.63	12.20	....	7,246	13,043		
			3	....	38.41	61.59	....	.71	4.65	79.82	1.75	13.07	....	7,761	13,970		
			4	....	....	....	....	....	4.69	80.39	1.76	13.16	....	7,801	14,042		

[a] No. 4,302 cut 40 feet below No. 4,301.

Table of chemical analyses—Continued.

Locality, bed, etc.	Sample.			Proximate.				Ultimate.					Air-drying loss.	Calorific value.		Reference.	
	Laboratory No.	Kind.	Condition.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.		Calories.	British thermal units.	Bulletin No.	Page of this bulletin.
WYOMING—Continued.																	
UINTA COUNTY—continued.																	
Bondurant, prospect pit—Continued.																	
Same (2½-foot cut[a], weathered.) Upper Frontier bed.	4301	B	1	10.70	30.67	54.35	4.28	0.78	5.34	66.18	1.45	21.97	6.0	6,357	11,443	316	1149
			2	....	34.34	60.87	4.79	.87	4.65	74.11	1.62	13.96	....	7,119	12,814		
			3	....	36.07	63.93	....	.92	4.88	77.84	1.71	14.65	....	7,477	13,459		
			4	....	....	....	....	....	4.93	78.56	1.72	14.79	....	7,524	13,544		
17 miles west of; sec. 11, T. 36 N., R. 116 W., surface prospect, 3½-foot cut.	4001	B	1	6.91	31.91	51.86	9.32	1.54	5.01	65.52	1.01	17.60	3.0	6,373	11,471	316	1149
			2	....	34.28	55.71	10.01	1.65	4.55	70.39	1.08	12.32	....	6,846	12,323		
			3	....	38.09	61.91	....	1.83	5.06	78.22	1.20	13.69	....	7,607	13,693		
25 miles southwest of; T. 36 N., R. 118 W., surface prospect of John Day River, 3-foot cut, weathered.	4323	B	1	7.80	36.25	54.33	1.62	.27	5.35	70.34	1.43	20.99	3.6	7,093	12,767	316	1149
			2	....	39.32	58.92	1.76	.29	4.86	76.29	1.55	15.25	....	7,693	13,847		
			3	....	40.02	59.98	....	.30	4.95	77.66	1.58	15.51	....	7,831	14,096		
			4	....	....	....	....	....	4.96	77.89	1.58	15.57	....	7,847	14,125		
Cumberland, 1 mile west of; sec. 31, T. 19 N., R. 116 W., Cumberland No. 1 mine, 2,100 feet west and 2,000 feet south of mouth, south entry 7, Main Kemmerer bed, 8-foot cut.	2245	B	1	6.78	39.79	47.43	6.00	.43	5.56	69.01	1.12	17.88	2.6	6,815	12,267	285	1150
			2	....	42.68	50.88	6.44	.46	5.16	74.03	1.20	12.71	....	7,310	13,158	*56*	
			3	....	45.62	54.38	....	.49	5.51	79.12	1.28	13.60	....	7,813	14,063		
			4	....	....	....	....	....	5.54	79.51	1.29	13.66	....	7,840	14,112		
Diamondville, sec. 25, T. 21 N., R. 116 W., No. 1 mine, 160 feet west and 3,460 feet north of mouth, room 45, entry 1, Main Kemmerer bed, 6½-foot cut.	2284	B	1	5.13	40.51	49.75	4.61	.49	5.63	72.95	1.18	15.14	1.3	7,202	12,964	285	1150
			2	....	42.70	52.44	4.86	.52	5.33	76.89	1.24	11.16	....	7,591	13,664	*56*	
			3	....	44.88	55.12	....	.54	5.61	80.82	1.31	11.72	....	7,979	14,362		
			4	....	....	....	....	....	5.64	81.26	1.31	11.79	....	8,010	14,418		
Frontier, sec. 12, T. 21 N., R. 116 W., Kemmerer No. 1 mine (850 feet in, Lower or A (6½-foot) bed, 40 feet below main bed, 72-inch cut).	2286	B	1	5.86	39.49	51.00	3.65	1.07	5.57	72.96	1.08	15.67	2.0	7,102	12,784	285	1150
			2	....	41.95	54.17	3.88	1.14	5.23	77.50	1.15	11.10	....	7,544	13,579	*56*	
			3	....	43.64	56.36	....	1.18	5.44	80.63	1.19	11.56	....	7,848	14,126		
			4	....	....	....	....	....	5.50	81.60	1.21	11.69	....	7,915	14,247		
Same (600 feet west and 2,850 feet south of opening, room 46, south entry 3, 9-foot cut). Main Kemmerer bed.	2287	B	1	5.89	37.59	49.01	7.51	1.39	5.28	68.48	1.07	16.27	2.4	6,870	12,366	285	1150
			2	....	39.94	52.08	7.98	1.48	4.92	72.77	1.14	11.71	....	7,300	13,140	*56*	
			3	....	43.40	56.60	....	1.61	5.35	79.07	1.24	12.73	....	7,933	14,279		
			4	....	....	....	....	....	5.43	80.37	1.26	12.94	....	8,026	14,447		
5 miles north of; SW. ¼ NW. ¼ sec. 19, T. 22 N., R. 115 W., Willow Creek opening, 150 feet from mouth, Willow Creek bed, 3-foot cut.	2285	B	1	3.96	36.16	55.11	4.77	.77	5.17	76.03	1.31	11.95	1.4	7,501	13,502	*56*	1151
			2	....	37.65	57.38	4.97	.80	4.93	79.16	1.36	8.78	....	7,810	14,058		
			3	....	39.62	60.38	....	.84	5.18	83.29	1.44	9.25	....	8,218	14,792		
			4	....	....	....	....	....	5.23	84.02	1.45	9.30	....	8,270	14,886		
12 miles north of; SW. ¼ NW. ¼ sec. 2, T. 23 N., R. 116 W., Willow Creek mine, 77-inch cut.	3572	B	1	6.88	38.05	51.52	3.55	1.76	5.28	70.62	.99	17.80	2.5	7,051	12,692	316	1151
			2	....	40.86	55.33	3.81	1.89	4.85	75.84	1.06	12.55	....	7,572	13,630		